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Room: Cavaniglia
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Academy of Sciences of Ukraine, Ukraine); Yuriy Shkvarko (CINVESTAV, Guadalajara, Ukraine)

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SPTM-P3: Compressed Sensing I

Room: Poster Area 3

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Rick Chartrand (Los Alamos National Laboratory, USA)

SPTM-P3.7 Block-Sparse Signal Recovery with Synthesized Multitask Compressive Sensing 1030

Ying-Gui Wang (National University of Defense Technology, P.R. China); Zheng Liu (National University of Defense Technology, P.R. China); Wen-Li Jiang (National University of Defense Technology, P.R. China); Le Yang (University of Missouri, Canada)

SPTM-P3.8 Joint Sparsity and Frequency Estimation for Spectral Compressive Sensing 1035

Jesper Kjær Nielsen (Aalborg University & Bang & Olufsen, Denmark); Mads Græsbøll Christensen (Aalborg University, Denmark); Søren Holdt Jensen (Aalborg University, Denmark)

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Valentin Emiya (Aix-Marseille Université, France); Antoine Bonnefoy (Aix-Marseille Université, France); Laurent Daudet (Université Paris Diderot, France); Rémi Gribonval (INRIA, France)

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Zhenqi Lu (Shanghai Jiao Tong University, P.R. China); Rendong Ying (Shanghai Jiaotong University, P.R. China); Sumxin Jiang (Shanghai Jiao Tong University, P.R. China); Zenghui Zhang (Shanghai Jiao Tong University, P.R. China); Peilin Liu (Shanghai Jiao Tong University, P.R. China); Wenxian Yu (Shanghai Jiao Tong University, P.R. China)

SPTM-P3.11 Robust Sparse Signal Recovery Based on Weighted Median Operator N/A

Juan Ramirez (Universidad de Los Andes, Venezuela); Jose L. Paredes (University of Los Andes & University of Delaware, USA)

SPTM-P3.12 Compressed matched filter for non-Gaussian noise 1050

Jakob Vovnoboy (HUJI, Israel); Ami Wiesel (Hebrew University in Jerusalem, Israel)

SPTM-P3.13 Power Spectrum Blind Sampling using Optimal Multicoset Sampling Patterns in the MSE sense 1055

Bamrung Tau Siesakul (University of Vigo, Spain); Nuria González-Prelcic (Universidad de Vigo, Spain)

SPTM-P3.14 Specular Multipath Exploitation for Improved Velocity Estimation in Through-the-Wall Radar Imaging 1060

Michael Leigsnering (Technische Universität Darmstadt, Germany); Fauzia Ahmad (Villanova University, USA); Moeness G. Amin (Villanova University, USA); Abdelhak M Zoubir (Darmstadt University of Technology, Germany)

SPTM-P4: Signal Processing over Graphs I

Room: Poster Area 4
Chair: Jose Moura (Carnegie Mellon University, USA)

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Ronan Hamon (ENS Lyon, France); Pierre Borgnat (ENS Lyon, CNRS, France); Patrick Flandrin (CNRS-ENS de Lyon, France); Celine Robardet (Insa de Lyon, France)

SPTM-P4.2 Coarsening Graph Signal with Spectral Invariance 1070
Pengfei Liu (Tsinghua University, P.R. China); Xiaohan Wang (Tsinghua University, P.R. China); Yuantao Gu (Tsinghua University, P.R. China)

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Aliaksei Sandryhaila (Carnegie Mellon University, USA); Soummya Kar (Carnegie Mellon University, USA); Jose Moura (Carnegie Mellon University, USA)

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Joya Deri (Carnegie Mellon University, USA); Jose Moura (Carnegie Mellon University, USA)

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Chunxiao Jiang (Tsinghua University, Beijing, P.R. China); Yan Chen (University of Maryland, College Park, USA); K. J. Ray Liu (University of Maryland, USA)

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Ceyhun Eksin (University of Pennsylvania, USA); Hakan Deliç (Bogazici University, Turkey); Alejandro Ribeiro (University of Pennsylvania, USA)

SPTM-P4.9 A Distributed Consensus Plus Innovation Particle Filter for Networks with Communication Constraints 1105
Arash Mohammadi (York University, Canada); Amir Asif (York University, Canada)

SPTM-P4.10 Distributed On-line Multidimensional Scaling for self-Localization in Wireless Sensor Networks 1110
Gemma Morral (Télécom Paristech / CNRS - LTCI, France); Amy Dieng (Telecom ParisTech, France); Pascal Bianchi (Telecom Paristech - LTCI, France)

SPTM-P4.11 Dynamic Diffusion Estimation in Exponential Family Models N/A
Kamil Dedecius (Institute of Information Theory and Automation, Academy of Sciences of the Czech Republic, Czech Republic); Vladimira Seckarova (Institute of Information Theory and Automation, ASCR, Czech Republic)

SPTM-P4.12 Semi-Supervised Learning for Graph to Signal Mapping: a Graph Signal Wiener Filter Interpretation 1115
Benjamin Girault (ENS Lyon, France); Paulo Gonçalves (INRIA, France); Eric Fleury (ENS Lyon / INRIA, France); Arashpreet Singh Mor (INRIA, India)

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Pin-Yu Chen (University of Michigan, USA); Alfred Hero III (University of Michigan, USA)

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June Zhang (Carnegie Mellon University, USA); Jose Moura (Carnegie Mellon University, USA)

SPCOM-P2: Interference alignment

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Dan Wu (Beihang University, P.R. China); Chenyang Yang (Beihang University, P.R. China); Zixiang Xiong (Texas A&M University, USA)

SPCOM-P2.2 Location Aided Semi-Blind Interference Alignment for Clustered Small Cell Networks 1135
Furkan Kavasoglu (UCSD, USA); Yichao Huang (Qualcomm Corporate R&D, USA); Bhaskar Rao (University of California, San Diego, USA)

SPCOM-P2.3 Improper Gaussian signaling for the Z-interference channel 1140
Sandra Lagen (Universitat Politècnica de Catalunya, Spain); Adrian Agustin (Universitat Politècnica de Catalunya (UPC), Spain); Josep Vidal (Universitat Politècnica de Catalunya, Spain)

SPCOM-P2.4 On the Degrees of Freedom of Partially-Connected Symmetrically-Configured MIMO Interference Broadcast Channels 1145
Tingting Liu (Beihang University, P.R. China); Chenyang Yang (Beihang University, P.R. China)

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Hans H. Brunner (Technische Universität München, Germany); Jonas Braun (Technische Universität München, Germany); Amine Mezghani (TU Munich, Germany); Josef A. Nossek (TU Munich, Germany)

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Marc Torrellas (Technical University of Catalonia, Spain); Adrian Agustin (Universitat Politècnica de Catalunya (UPC), Spain); Josep Vidal (Universitat Politècnica de Catalunya, Spain)

SPCOM-P2.7 New Feedback Topology Designs with Reduced CSI Overhead for MIMO Interference Alignment N/A

Jin Jin (Beijing University of Posts and Telecommunications, P.R. China); Lihua Li (Beijing University of Posts and Telecommunications, P.R. China); Hui Tian (Beijng university of posts and telecommunications, P.R. China); Qiang Wang (Beijing University of Posts and Telecommunications, P.R. China); Xiangchuan Gao (Zhengzhou University, P.R. China)

SPCOM-P2.8 Ergodic Interference Alignment With Delayed Feedback N/A

Myunggil Kang (KAIST, Korea); Wan Choi (KAIST, Korea)

SPCOM-P2.9 Opportunistic Scheduling With BIA Under Block Fading Broadcast Channels N/A

Weipeng Jiang (Beijing University of Posts and Telecommunications, P.R. China); Zhiqiang He (Beijing University of Posts and Telecommunications, P.R. China); Kai Niu (Beijing University of Posts and Telecommunications, P.R. China); Li Guo (Beijing University of Posts and Telecommunications, P.R. China); Weiling Wu (Beijing University of Posts and Telecommunications, P.R. China)

SPCOM-P2.10 Receiver-Coordinated Distributed Transmit Nullforming with Local and Unified Tracking 1160

Donald R. Brown, III (Worcester Polytechnic Institute, USA); Radu David (Worcester Polytechnic Institute, USA)

IVMSP-P3: Image Restoration and Enhancement

Room: Poster Area 6

Chair: William Karl (Boston University, USA)

IVMSP-P3.1 A Low-Complexity 3D Spatio-Temporal FIR Filter for Enhancing Linear Trajectory Signals 1165

Chamira U. S. Edussooriya (University of Victoria, Canada); Leonard T. Bruton (University of Calgary, Canada); Pan Agathoklis (University of Victoria, Canada)

IVMSP-P3.2 Metal Artifact Reduction for CT-Based Luggage Screening 1170

Seemeen Karimi (University of California, San Diego, USA); Harry Martz (Lawrence Livermore National Laboratories, USA); Pamela Cosman (University of California, San Diego, USA)

IVMSP-P3.3 Structure-preserving dual-energy CT for luggage screening 1175

Limor Martin (Boston University, USA); William Karl (Boston University, USA); Prakash Ishwar (Boston University, USA)

IVMSP-P3.4 Adaptive 2D-AR framework for texture completion 1180

Fabien Racape (Fraunhofer Institut for Telecomunications, Heinrich-Hertz-Institut, Germany); Martin Köppel (Fraunhofer Institut for Telecomunications, Heinrich-Hertz-Institut, Germany); Dimitar Doshkov (Fraunhofer Institut for Telecomunications, Heinrich-Hertz-Institut, Germany); Patrick Ndjiki-Nya (Fraunhofer-Gesellschaft, Germany)

IVMSP-P3.5 Flash/No-flash Image Integration Using Convex Optimization 1185

Tatsuya Baba (The University of Kitakyushu, Japan); Ryo Matsuoka (The University of Kitakyushu, Japan); Shunsuke Ono (Tokyo Institute of Technology, Japan); Keiichiro Shirai (Shinshu University Japan, Japan); Masahiro Okuda (The University of Kitakyushu, Japan)

IVMSP-P3.6 A Novel Retinex Based Approach for Image Enhancement with Illumination Adjustment 1190

Xueyang Fu (Xiamen University, P.R. China); Ye Sun (Xiamen University, P.R. China); Minghui LiWang (Xiamen University, P.R. China); Yue Huang (Xiamen University, P.R. China); Xiao-Ping Zhang (Ryerson University, Canada); Xinghao Ding (Xiamen University & Xiamen University, P.R. China)

IVMSP-P3.7 Fusion of Tone-Mapped High Dynamic Range Images Based on Objective Range-Independent Quality Maps 1195

Charles Yaacoub (Holy-Spirit University of Kaslik, Lebanon); Cendrella Yaghi (Holy-Spirit University of Kaslik, Lebanon); Christine Bou Rizk (Holy-Spirit University of Kaslik, Lebanon)

IVMSP-P3.8 Adaptive Windowing for Optimal Visualization of Medical Images Based on Normalized Information Distance 1200

Nima Nikvand (University of Waterloo, Canada); Hojatollah Yeganeh (University of Waterloo & Avvasi, Canada); Zhou Wang (University of Waterloo, Canada)

IVMSP-P3.9 Power-Constrained RGB-to-RGBW Conversion for Emissive Displays 1205

Chul Lee (Pennsylvania State University, USA); Vishal Monga (Pennsylvania State University, USA)

IVMSP-P3.10 Color transform between image pair using covariance correspondences of local color distributions 1210

Yusuke Tatesumi (Shinshu Univ, Japan); Keisuke Iwata (Shinshu University, Japan); Keiichiro Shirai (Shinshu University Japan, Japan); Masahiro Okuda (The University of Kitakyushu, Japan)

IVMSP-P3.11 Image Colorization Algorithm Using Series Approximated Sparse Function 1215

Kazunori Uruma (Tokyo University of Science, Japan); Katsumi Konishi (Kogakuin University, Japan); Tomohiro Takahashi (Tokyo University of Science, Japan); Toshihiro Furukawa (Tokyo University of Science, Japan)

IVMSP-P3.12 SSIM Performance Limitation of Linear Equalizers 1220

Li Chai (Wuhan University of Science and Technology, P.R. China); Yuxia Sheng (Wuhan University of Science and Technology, P.R. China); Jingxin Zhang (Monash University, Australia)

IVMSP-P3.13 Poisson denoising with multiple Directional LOTs 1225

Zhiyu Chen (Niigata University, Japan); Shogo Muramatsu (Niigata University, Japan)

IVMSP-P3.14 Unbiased noise estimation and denoising in Parallel Magnetic Resonance Imaging 1230

Pasquale Borrelli (University of Naples, Italy); Giuseppe Palma (National Research Council of Italy - Institute of Biostructures and Bioimaging, Italy); Marco Comerci (National Research Council of Italy - Institute of Biostructures and Bioimaging, Italy); Bruno Alfano (National Research Council of Italy - Institute of Biostructures and Bioimaging, Italy)

IVMSP-P4: Video Analysis

Room: Poster Area 7

Chair: Carlo S Regazzoni (University Of Genova, Italy)

AASP-P2: Echo Control I, Quality Measure

Room: Poster Area 8

Chair: Israel Cohen (Technion, Israel)

MMSP-P2: Multimedia Systems, Databases, and Quality Assessment

Room: Poster Area 9
Chair: Homer Chen (National Taiwan University & National Taiwan University, Taiwan)

SAM-P1: Localization and Tracking

Room: Poster Area 10
Chair: Mounir Ghogho (University of Leeds & International University of Rabat, United Kingdom)

SAM-P1.1 Matched field processing localization with random sensor topologies 1404
Joel B. Harley (Carnegie Mellon University, USA); Jose Moura (Carnegie Mellon University, USA)

SAM-P1.2 Weighted Stansfield Algorithm in Three Dimensions 1409
Neda Adib (Southern Methodist University, USA); Scott Douglas (Southern Methodist University & LGT Corporation, USA)

SAM-P1.3 Novel Closed-form Auxiliary Variables Based Algorithms for Sensor Node Localization Using AOA 1414
Huajie Shao (Zhejiang University, P.R. China); Xiao-Ping Zhang (Ryerson University, Canada); Zhi Wang (Zhejiang University & State Key Laboratory of Industrial Control Technology, Zhejiang University, P.R. China)

SAM-P1.4 Reaching Asymptotic Efficient Performance for Squared Processing of Range and Range Difference Localizations in the Presence of Sensor Position Errors 1419
Shanjie Chen (University of Missouri, USA); Dominic K. C. Ho (University of Missouri, USA)

SAM-P1.5 A Binaural Sound Source Localization Model Based on Time-Delay Compensation and Interaural Coherence 1424
Zhang Jie (Shenzhen Graduate School, Peking University, P.R. China)

SAM-P1.6 Source Localization and Tracking in Non-Convex Rooms 1429
Orhan Ocal (EPFL, Switzerland); Ivan Dokmanić (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Martin Vetterli (EPFL, Switzerland)

SAM-P1.7 Single-Channel Indoor Microphone Localization 1434
Reza Parhizkar (EPFL, Switzerland); Ivan Dokmanić (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Martin Vetterli (EPFL, Switzerland)

SAM-P1.8 Model-based Sparse Component Analysis for Reverberant Speech Localization 1439
Afsaneh Asaei (Idiap Research Institute, Switzerland); Herve Bourlard (IDIAP, Switzerland); Mohammad J. Taghizadeh (Idiap Research Institute & EPFL, Switzerland); Volkan Cevher (Ecole Polytechnique Federale de Lausanne, Switzerland)

SAM-P1.9 Multiple Concurrent Speaker Short-Term Tracking Using A Kalman Filter Bank 1444
Youssef Oualil (Saarland University, Germany); Dietrich Klakow (Saarland University, Germany)

SAM-P1.10 Adaptive Waveform Scheduling for Target Tracking in Clutter by Multistatic Radar System 1449
Ngoc Hung Nguyen (University of South Australia, Australia); Kutluyıl Doğançay (University of South Australia, Australia); Linda M. Davis (University of South Australia, Australia)

SAM-P1.11 Motion Parameter Estimation of Multiple Targets in Multistatic Passive Radar Through Sparse Signal Recovery 1454
Saurav Subedi (Villanova University, USA); Yimin D. Zhang (Villanova University, USA); Moeness G. Amin (Villanova University, USA); Braham Himed (AFRL, USA)

SAM-P1.12 Environmentally Sensitive Particle Filter Tracking in Multistatic AUV Networks with Port-Starboard Ambiguity 1458
Ryan Goldhahn (NATO STO Centre for Maritime Research and Experimentation, Italy); Paolo Braca (NATO STO Centre for Maritime Research and Experimentation, Italy); Kevin LePage (CMRE, Italy); Peter Willett (University of Connecticut, USA); Stefano Marano (University of Salerno, Italy); Vincenzo Matta (University of Salerno, Italy)

SAM-P1.13 Joint Emitter Detection and Tracking using Distributed Random Exchange Diffusion Particle Filtering 1463
Stiven Dias (Instituto Tecnológico de Aeronáutica (ITA) & Embraer Defense & Security (EDS), Brazil); Marcelo Bruno (ITA, Brazil)

Wednesday, May 7

8:30 AM - 10:30 AM

SLTC-L4: Fundamental Frequency Estimation

Room: Cavaniglia
Chairs: Malcolm Slaney (Microsoft Research & Stanford University, USA), DeLiang Wang (Ohio State University, USA)

8:30 Robust F0 Estimation in Noisy Speech Signals Using Shift Autocorrelation 1468
Frank Kurth (Fraunhofer FKIE, Germany); Alessia Cornaggia-Urrigshardt (Fraunhofer FKIE, Germany); Sebastian Urrigshardt (Fraunhofer FKIE, Germany)

8:50 Multi-pitch tracking using Gaussian mixture model with time varying parameters and Grating Compression Transform 1473
Abhijith Mundanad Narayanan (Indian Institute of Science, India); Prasanta Kumar Ghosh (Indian Institute of Science, India); Kasi Rajgopal (Indian Institute of Science, India)

9:10 A Computationally Efficient Refinement of the Fundamental Frequency Estimate for the Adaptive Harmonic Model 1478
Veronica Morfi (University of Crete / FORTH, Greece); Gilles Degottex (University of Crete / FORTH & FORTH, Greece); Athanasios Mouchtaris (Foundation for Research and Technology-Hellas, Greece)

9:30 A Robust Pitch Detector Based on Time Envelope and Individual Harmonic Information using Phase Locked Loops and Consensual Decisions 1483
Patricia Pelle (University of Buenos Aires, Argentina); Claudio Estienne (University of Buenos Aires, School of Engineering, Argentina)

9:50 Neural Networks For Supervised Pitch Tracking in Noise 1488
Kun Han (The Ohio State University, USA); DeLiang Wang (Ohio State University, USA)

10:10 Epoch Extraction from Allpass Residual of Speech Signals 1493

Karthika Vijayan (IIT Hyderabad, India); Sri Rama Murty Kodukula (Indian Institute of Technology Hyderabad, India)

SS3: Optimization algorithms for high dimensional signal processing

Room: Basilica
Chairs: Volkan Cevher (Ecole Polytechnique Federale de Lausanne, Switzerland), Mário A. T. Figueiredo (Instituto Superior Técnico & Instituto de Telecomunicações, Portugal)
8:30 A preconditioned forward-backward approach with application to large-scale nonconvex spectral unmixing problems 1498
Audrey Repetti (Université Paris-Est Marne-la-Vallée, France); Emilie Chouzenoux (Université Paris-Est Marne-la-Vallée, France); Jean-Christophe Pesquet (University Paris-Est, France)
8:50 Iteration-Complexity of a Generalized Forward Backward Splitting Algorithm N/A
Jingwei Liang (Greyc, ENSICAEN, France); Jalal Fadili (CNRS and Greyc, ENSICAEN, France); Gabriel Peyré (CNRS and Université Paris-Dauphine, France)
9:10 Barrier smoothing for nonsmooth convex minimization 1503
Quoc Tran Dinh (École Polytechnique Fédérale de Lausanne (EPFL), Switzerland); Yen-Huan Li (École Polytechnique Fédérale de Lausanne (EPFL), Switzerland); Volkan Cevher (Ecole Polytechnique Federale de Lausanne, Switzerland)
9:30 Distributed Nesterov Gradient Methods for Random Networks: Convergence in Probability and Convergence Rates 1508
Dusan Jakovetic (BioSense Center, University of Novi Sad, Serbia); João Xavier (I.S.T. - Technical U. Lisbon / I.S.R. Lisbon, Portugal); Jose Moura (Carnegie Mellon University, USA)
9:50 Teaching a new trick to an old dog: revisiting the quadratic programming formulation of sparse recovery using ADMM 1512
Mário A. T. Figueiredo (Instituto Superior Técnico & Instituto de Telecomunicações, Portugal)
10:10 Active set strategy for high-dimensional non-convex sparse optimization problems 1517
Aurélie Boisbunon (INRIA Sophia-Antipolis Méditerranée – AYIN Team, France); Rémi Flamary (Université de Nice Sophia-Antipolis & Laboratoire Lagrange, UMR CNRS, France); Alain Rakotomamonjy (INSA/Universite de Rouen, France)

MMSP-L1: Multimedia and Multimodal Signal Processing I

Room: Polveriera
Chairs: Peter Schelkens (Vrije Universiteit Brussel, Belgium), Vanessa Testoni (Samsung Research, Brazil)
8:30 Robust Canonical Correlation Analysis: Audio-visual Fusion for Learning Continuous Interest 1522
Mihalis Nicolaou (Imperial College London, United Kingdom); Yannis Panagakis (Imperial College London, United Kingdom); Stefanos Zafeiriou (Imperial College, United Kingdom); Maja Pantic (Imperial College, United Kingdom)
8:50 A new EM estimation of dynamic stream weights for coupled-HMM-based audio-visual ASR 1527
Ahmed Hussen Abdelaziz (Ruhr-Universität Bochum, Germany); Steffen Zeiler (Ruhr-Universität Bochum, Germany); Dorothea Kolossa (Ruhr-Universität Bochum, Germany)
9:10 Look Who's Talking: Detecting the Dominant Speaker in a Cluttered Scenario 1532
Eleonora D'Arca (Heriot Watt University, United Kingdom); Neil Robertson (Heriot-Watt University, United Kingdom); James R Hopgood (University of Edinburgh & Institute for Digital Communications, United Kingdom)
9:30 Motion history images for online speaker/signer diarization 1537
Binyam Gebrekidan Gebre (Max Planck Institute for Psycholinguistics, The Netherlands); Peter Wittenburg (MPI for Psycholinguistics, The Netherlands); Tom Heskes (Radboud University Nijmegen, The Netherlands); Sebastian Drude (Max Planck Institute for Psycholinguistics, The Netherlands)
9:50 Multimodal Voice Conversion using Non-Negative Matrix Factorization in Noisy Environments 1542
Kenta Masaka (Kobe University, Japan); Ryo Aihara (Kobe University, Japan); Tetsuya Takiguchi (Kobe University, Japan); Yasuo Ariki (Kobe University, Japan)
10:10 Bag of sub-graphs for video event recognition 1547
Najib Ben Aoun (REGIM-Lab:REsearch Groups on Intelligent Machines & University of Sfax, National Engineering School of Sfax, Tunisia); Mahmoud Mejdoub (REGIM-Lab: REsearch Groups on Intelligent Machines, Tunisia); Chokri Ben Amar (University of Sfax, National School of Engineers & Research Groups on Intelligent Machines, Tunisia)

AASP-L2: Speech and Audio Enhancement

Room: Scherma
Chairs: Shoji Makino (University of Tsukuba, Japan), Jonathan Le Roux (Mitsubishi Electric Research Laboratories, USA)
8:30 Examples of Optimal Noise Reduction Filters Derived from the Squared Pearson Correlation Coefficient 1552
Jiaolong Yu (Northwestern Polytechnical University, P.R. China); Jacob Benesty (INRS-EMT, University of Quebec, Canada); Gongping Huang (Northwestern Polytechnical University, P.R. China); Jingdong Chen (Northwestern Polytechnical University, USA)
8:50 Fast segment search for corpus-based speech enhancement based on speech recognition technology 1557
Atsunori Ogawa (NTT Corporation, Japan); Keisuke Kinoshita (NTT Corporation, Japan); Takaaki Hori (NTT Corporation, Japan); Tomohiro Nakatani (NTT Corporation, Japan); Atsushi Nakamura (NTT Corporation, Japan)
9:10 Deep Learning for Monaural Speech Separation 1562

Po-Sen Huang (University of Illinois at Urbana-Champaign & Beckman Institude, USA); Minje Kim (University of Illinois at Urbana-Champaign, USA); Mark Hasegawa-Johnson (University of Illinois, USA); Paris Smaragdis (University of Illinois at Urbana-Champaign, USA)

9:30 An interactive audio source separation framework based on non-negative matrix factorization 1567

Ngoc Q. K. Duong (Technicolor, France); Alexey Ozerov (Technicolor Research & Innovation, France); Louis Chevallier (Technicolor, France); Joel Sirot (Technicolor, France)

9:50 Towards complex matrix decomposition of spectrograms based on the relative phase offsets of harmonic sounds 1572

Holger Kirchhoff (Queen Mary University of London, United Kingdom); Roland Badeau (Institut Mines Telecom, Telecom ParisTech, CNRS LTCI, France); Simon Dixon (Queen Mary University of London & Centre for Digital Music, United Kingdom)

10:10 Audio Declipping with Social Sparsity 1577

Kai Siedenburg (McGill University, Canada); Matthieu Kowalski (Univ Paris-Sud, France); Monika Doerfler (University of Vienna, Austria)

SS4: Signal Processing for Cyber-Security and Privacy

Room: Teatrino

Chairs: Holger Boche (Technical University Munich, Germany), Rafael F. Schaefer (Princeton University, USA)

8:30 On the Use of Secret Keys in Broadcast Channels with Receiver Side Information 1582

Rafael F. Schaefer (Princeton University, USA); Ashish Khisti (University of Toronto, Canada); Holger Boche (Technical University Munich, Germany)

8:50 Mobi-Cliques for Improving Ergodic Secrecy in Fading Wiretap Channels under Power Constraints 1587

Dionysios Kalogerias (Rutgers, The State University of New Jersey, USA); Athina Petropulu (Rutgers, The State University of New Jersey, USA)

9:10 Precoding for Secret Key Generation in Multiple Antenna Channels with Statistical Channel State Information 1592

Sabrina Engelmann (Dresden University of Technology, Germany); Anne Wolf (Dresden University of Technology, Germany); Eduard Jorswieck (TU Dresden, Germany)

9:30 Robust Artificial Noise-aided Transmit Optimization for Achieving Secrecy and Energy Harvesting 1596

Qiang Li (University of Electronic Science and Technology of China, P.R. China); Wing-Kin Ma (The Chinese University of Hong Kong, Hong Kong); Anthony Man-Cho So (The Chinese University of Hong Kong, Hong Kong)

9:50 Privacy-leakage codes for biometric authentication systems 1601

Tanya Ignatenko (Eindhoven University of Technology, The Netherlands); Frans MJ Willems (Technical University Eindhoven, The Netherlands)

10:10 Device-to-Device Communications:The Physical Layer Security Advantage 1606

Daohua Zhu (National Mobile Communications Research Laboratory, Southeast University, P.R. China); Lee Swindlehurst (University of California at Irvine, USA); Ali Fakoorian (University of California, Irvine, USA); Wei Xu (Southeast University, P.R. China); Chunming Zhao (National Mobile Communications Research Laboratory, Southeast University, P.R. China)

BISP-L1: Biomedical Informatics and Image Analysis I

Room: Volta

Chair: Scott Acton (University of Virginia, USA)

8:30 A Non-Homogeneous Poisson Process Model of Skin Conductance Responses Integrated with Observed Regulatory Behaviors for Autism Intervention 1611

Theodora Chaspari (University of Southern California, USA); Matthew Goodwin (Northeastern University, USA); Oliver Wilder-Smith (Northeastern University, USA); Amanda Gulsrud (University of California, USA); Charlotte Mucchetti (University of California, USA); Connie Kasari (University of California, USA); Shrikanth Narayanan (University of Southern California, USA)

8:50 Joint Clustering of Protein Interaction Networks by Block Modeling 1616

Yijie Wang (Texas A&M University, USA); Xiaoning Qian (Texas A&M University, USA)

9:10 Using Density Invariant Graph Laplacian to Resolve Unobservable Parameters for Three-Dimensional Optical Bio-imaging 1621

Chien-Hung Lu (Department of Electrical Engineering, Princeton University, USA); Pei-Yuan Wu (Department of Electrical Engineering, Princeton University, USA)

9:30 Deep Learning of Feature Representation with Multiple Instance Learning for Medical Image Analysis 1626

Yan Xu (Beihang University, P.R. China); Tao Mo (Tsinghua University, P.R. China); Qiwei Feng (Tsinghua University, P.R. China); Peilin Zhong (Tsinghua University, P.R. China); Maode Lai (Zhejiang University, P.R. China); Eric Chang (Microsoft Research, P.R. China)

9:50 Exponential Hermite Splines for the Analysis of Biomedical Images 1631

Virginie Uhlmann (Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland); Ricard Delgado-Gonzalo (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Costanza Conti (University of Florence, Italy); Lucia Romani (University of Milano-Bicocca, Italy); Michael Unser (EPFL, Switzerland)

10:10 An Adaptive Distributed Resampling Algorithm with Non-Proportional Allocation 1635

Omer Demirel (The Max Planck Institute of Molecular Cell Biology and Genetics, Germany); Ihor Smal (Erasmus MC -- University Medical Center Rotterdam, ? Th); Wiro Niessen (Erasmus MC, Rotterdam, The Netherlands); Erik Meijering (Erasmus MC -- University Medical Center Rotterdam, The Netherlands); Ivo F. Sbalzarini (The Max Planck Institute of Molecular Cell Biology and Genetics, Germany)

SLTC-P5: Speaker recognition II

Room: Poster Area 1
Chair: Nicholas Evans (EURECOM, France)

SLTC-P5.1 An Investigation of Summed-channel Speaker Recognition with Multi-session Enrollment 1640
Shanshan Zhang (Institute of Automation, Chinese Academy of Sciences, P.R. China); Ce Zhang (Institute of Automation, Chinese Academy of Sciences, P.R. China); Rong Zheng (Institute of Automation, Chinese Academy of Sciences, P.R. China); Bo Xu (Institute of Automation, Chinese Academy of Sciences, P.R. China)

SLTC-P5.2 Training pairwise Support Vector Machines with large scale datasets 1645
Sandro Cumani (Politecnico di Torino, Italy); Pietro Laface (Politecnico di Torino, Italy)

SLTC-P5.3 Large-scale speaker identification 1650
Ludwig Schmidt (MIT, USA); Matthew Sharifi (Google, USA); Ignacio Lopez Moreno (Google Inc., USA)

SLTC-P5.4 Spear: An Open Source Toolbox for Speaker Recognition Based on Bob 1655
Elie Khoury (Idiap Research Institute, Switzerland); Laurent El Shafey (Idiap Research Institute, Switzerland); Sébastien Marcel (IDIAP Research Institute, Switzerland)

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Hung-Shin Lee (Institute of Information Science, Academia Sinica, Taiwan); Yu Tsao (Research Center for Information Technology Innovation, Academia Sinica, Taiwan); Yun-Fan Chang (Research Center for Information Technology Innovation, Academia Sinica, Taiwan); Hsin-Min Wang (Academia Sinica, Taiwan); Sk Jeng (National Taiwan University, Taiwan)

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Ewald Enzinger (School of Elec. Eng. & Telecom., University of New South Wales, Sydney, Australia & Austrian Academy of Sciences, Austria); Christian Kasess (Acoustics Research Institute, Austrian Academy of Sciences, Austria)

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Jianglin Wang (Marquette University, USA); Michael Johnson (Marquette University, USA)

SLTC-P5.12 A novel scheme for speaker recognition using a phonetically-aware deep neural network 1695
Yun Lei (SRI International, USA); Nicolas Scheffer (SRI International, USA); Luciana Ferrer (SRI International, USA); Mitchell McLaren (SRI International, USA)

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Omid Ghahabi (Universitat Politècnica de Catalunya · BarcelonaTech, Spain); Javier Hernando (Technical University of Catalonia, Spain)

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Patrick Kenny (CRIM, Canada); Themos Stafylakis (Ecole de Technologie Superieure, Canada); Pierre Ouellet (Centre de Recherche Informatique de Montreal (CRIM), Canada); Jahangir Alam (CRIM, Canada)

SLTC-P6: Robust Speech Recognition I

Room: Poster Area 2
Chair: Jinyu Li (Microsoft Corporation, USA)

SLTC-P6.1 Feature Enhancement using Sparse Reference and Estimated Soft-Mask Exemplar-Pairs for Noisy Speech Recognition 1710
Lee Tan (University of California, Los Angeles, USA); Abeer Alwan (UCLA, USA)

SLTC-P6.2 Non-Linear Dimension Reduction of Gabor Features for Noise-Robust ASR 1715
Hitesh A Gupta (UCLA, USA); Anirudh Raju (UCLA, USA); Abeer Alwan (UCLA, USA)

SLTC-P6.3 Feature compensation using linear combination of speaker and environment dependent correction vectors 1720
Xiong Xiao (Nanyang Technological University, Singapore); Jinyu Li (Microsoft Corporation, USA); Eng-Siong Chng (Nanyang Technological University, Singapore); Haizhou Li (Institute for Infocomm Research, Singapore)

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Tom Ko (The Hong Kong University of Science and Technology, Hong Kong); Brian Mak (The Hong Kong University of Science and Technology, Hong Kong); Cheung-Chi Leung (Institute for Infocomm Research, A*STAR, Singapore)

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Duc Hoang Ha Nguyen (Nanyang Technological University, Singapore); Xiong Xiao (Nanyang Technological University, Singapore); Eng-Siong Chng (Nanyang Technological University, Singapore); Haizhou Li (Institute for Infocomm Research, Singapore)

SPTM-P5: Sampling Theory and Methods I

Room: Poster Area 3
Chair: Josef A. Nossek (TU Munich, Germany)

Sudarshan Nagesh (Indian Institute of Science, India); Satish Mulleti (Indian Institute of Science, India); Chandra Sekhar Seelamantula (Indian Institute of Science, India)

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Henrik Ohlsson (Linköping University, Sweden); Yonina C. Eldar (Technion-Israel Institute of Technology, Israel)

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

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SPTM-P6.2 Parameter Identifiability in Sparse Bayesian Learning 1851
Piya Pal (University of Maryland, College Park, USA); P. p. Vaidyanathan (Cal Tech., USA)

SPTM-P6.3 Analysis Of The Cross-Target Measurement Fusion Likelihood For RSSI-Based Sensors 1856
Jonathan Beaudeau (Stony Brook University, USA); Monica F. Bugallo (Stony Brook University, USA); Petar M. Djurić (Stony Brook University, USA)

SPTM-P6.4 Distributed data fusion using iterative covariance intersection 1861
Ondrej Hlinka (Vienna University of Technology, Austria); Ondrej Slučiak (Vienna University of Technology, Austria); Franz Hlawatsch (Vienna University of Technology, Austria); Markus Rupp (Vienna University of Technology, Austria)

SPTM-P6.5 Robust asynchronous indoor localization using LED lighting 1866
Georg Kail (EPFL, Switzerland); Patrick Maechler (ETH Zurich, Switzerland); Nicholas Preyss (EPFL, Switzerland); Andreas Burg (EPFL, Switzerland)

SPTM-P6.6 Exploiting an Event Based State Estimator in presence of sparse measurements in video analytics 1871
Pietro Morerio (University of Genoa, Italy); Mattia Pompei (Politecnico di Milano, Italy); Lucio Marcenaro (Università degli Studi di Genova, Italy); Carlo S Regazzoni (University Of Genova, Italy)

SPTM-P6.7 Optimal Information Ordering in Sequential Detection Problems with Cognitive Biases 1876
Naeem Akl (UT Austin, USA); Ahmed Tewfik (University of Texas, Austin, USA)

SPTM-P6.8 Fast Approximate L0-norm Deconvolution Using Structured Wavelet Domain Priors 1881
Timothy D Roberts (University of Cambridge, United Kingdom); Nick Geoffrey Kingsbury (University of Cambridge, United Kingdom)

SPTM-P6.9 Non-parametric Bayesian framework for detection of object configurations with large intensity dynamics in highly noisy hyperspectral data 1886
Céline Meillier (University of Grenoble, GIPSA-Lab, France); Florent Chatelain (GipSA-Lab, France); Olivier Michel (INPG, France); Hacheme Ayasso (GIPSA-LAB, France)

SPTM-P6.10 Model Selection and Comparison for Independents Sinusoids 1891
Jesper Kjær Nielsen (Aalborg University & Bang & Olufsen, Denmark); Mads Græsbøll Christensen (Aalborg University, Denmark); Søren Holdt Jensen (Aalborg University, Denmark)

SPTM-P6.11 Pattern-Coupled Sparse Bayesian Learning for Recovery of Block-Sparse Signals 1896
Yanning Shen (University of Electronic Science and Technology of China, P.R. China); Huiping Duan (UESTC, P.R. China); Jun Fang (Stevens Institute of Technology, USA); Hongbin Li (Stevens Institute of Technology, USA)

SPTM-P6.12 A hierarchical sparsity-smoothness Bayesian model for l0 + l1 + l2 regularization 1901
Lotfi Chaari (University of Toulouse, IRIT - INP-ENSEEIHT, France); Hadj Batatia (University of Toulouse, France); Nicolas Dobigeon (University of Toulouse, France); Jean-Yves Tourneret (University of Toulouse & IRIT/ENSEEIHT/TéSA, France)

SPCOM-P3: Detection and decoding

Room: Poster Area 5

SPCOM-P3.1 Joint Detection and Decoding of LDPC Coded Distributed Space-Time Signaling in Wireless Relay Networks via Linear Programming 1906
Kun Wang (University of California, Davis, USA); Wenhao Wu (University of California, Davis, USA); Zhi Ding (University of California at Davis, USA)

SPCOM-P3.2 Low complexity decoding of variable length source-channel codes 1911
Hugues Mercier (Université de Neuchâtel, Switzerland); Fabrice Labeau (McGill University, Canada); Abdul Wasae (McGill University, Canada)

SPCOM-P3.3 MIMO detection based on averaging Gaussian projections 1916
Jacob Goldberger (Bar Ilan University, Israel)

SPCOM-P3.4 Reliable packet type estimation via joint protocol-channel decoding 1921
Kai Wan (L2S - CNRS - Supelec - Univ Paris-Sud, France); Jinghui Liu (L2S - CNRS - Supelec - Univ Paris-Sud, France); Michel Kieffer (L2S - CNRS - SUPELEC - UniversityParis-Sud, France); Pierre Duhamel (Lss Supelec & CNRS, France)

SPCOM-P3.5 Reduced Complexity Sphere Decoding Using A Geometrical Approach 1926
Mahdi Abbasi (Yazd University, Yazd, Iran); Ali A. Tadaion (Yazd University, Iran); Saeed Gazor (Queens University, Canada)

SPCOM-P3.6 FER prediction with variable codeword length 1931
Alberto Rico-Alvariño (University of Vigo, Spain); Robert Heath (The University of Texas at Austin, USA); Carlos Mosquera (University of Vigo, Spain)

SPCOM-P3.7 Flexible Non-Binary LDPC Decoding on FPGAs 1936
Joao Andrade (Instituto de Telecomunicações, University of Coimbra, Portugal); Gabriel Falcao (Instituto de Telecomunicações, University of Coimbra, Portugal);

Vitor Silva (Institute of Telecommunications, Portugal); Kenta Kasai (Tokyo Institute of Technology, Japan)

SPCOM-P3.8 Expectation Propagation Approach to Joint Channel Estimation and Decoding for OFDM Systems 1941
Sheng Wu (Tsinghua University, P.R. China); Linling Kuang (Tsinghua University, P.R. China); Zuyao Ni (Tsinghua University, P.R. China); Jianhua Lu (Tsinghua University, P.R. China); Defeng Huang (University of Western Australia, Australia); Qinghua Guo (University of Western Australia, Australia)

SPCOM-P3.9 Turbo-Equalization of the Remaining Interference in a Pre-Distorted Non-Linear Satellite Channel 1946
Thibault Deleu (Université Libre de Bruxelles, Belgium); Mathieu Dervin (Thales Alenia Space, France); François Horlin (Université Libre de Bruxelles, Belgium)

SPCOM-P3.10 Partial CRC-assisted error correction of AIS signals received by satellite 1951
Raoul Prévost (INP-ENSEEIHT/IRIT & TéSA, France); Martial Coulon (University of Toulouse, France); David Bonacci (TeSA lab, France); Julia LeMaitre (CNES, France); Jean-Pierre Millerioux (CNES, France); Jean-Yves Tourneret (University of Toulouse & IRIT/ENSEEIHT/TéSA, France)

SPCOM-P3.11 LLR Optimization for Iterative MIMO BICM Receivers 1956
Jinhong Wu (Samsung Semiconductor, Inc., USA); Mostafa El-Khamy (Samsung Research America, USA); Jungwon Lee (Samsung US R&D Center, USA); Inyup Kang (Samsung Electronics, USA)

SPCOM-P3.12 An Adaptive MMSE-SIC Soft Detector with Error Regularization for Iterative MIMO Receivers 1961
Alexander Krebs (Technische Universität München, Germany); Michael Joham (Technische Universität München, Germany); Wolfgang Utschick (Technische Universität München, Germany)

SPCOM-P3.13 Complexity Outage Probability of MIMO Detection in Multiple-User Scenario N/A
Yuan Qi (Beijing University of Posts & Telcommunications, P.R. China); Rongrong Qian (Beijing University of Posts and Telecommunications, P.R. China)

SPCOM-P3.14 Channel Estimation in UWB channels using Compressed Sensing 1966
Kfir M. Cohen (Technion, Israel); Chen Attias (Technion, Israel); Barak Farbman (Technion - Israel Institute of Technology, Israel); Igor Tselniker (Technion, Israel); Yonina C. Eldar (Technion-Israel Institute of Technology, Israel)

IVMSP-P5: Image Coding and Communication

Room: Poster Area 6
Chair: Andre Kaup (University of Erlangen-Nuremberg, Germany)

IVMSP-P5.1 Extreme Unequal Error Protection and Perfectly Reliable Encoding 1971
Riccardo Bernardini (University of Udine, Italy); Roberto Rinaldo (University of Udine & Department of Electrical, Management and Mechanical Engineering, Italy)

IVMSP-P5.2 Frequency Selective Extrapolation with Residual Filtering for Image Error Concealment 1976
Jan Koloda (Universidad de Granada, Spain); Jürgen Seiler (University of Erlangen-Nuremberg, Germany); Andre Kaup (University of Erlangen-Nuremberg, Germany); Victoria Sanchez (University of Granada, Spain); Antonio M. Peinado (University of Granada, Spain)

IVMSP-P5.3 An Efficient Method For No-Reference H.264/SVC Bitstream Extraction 1981
Shengbin Meng (Peking University, P.R. China); Jun Sun (Peking University & Institute of Computer Science and Technology, P.R. China); Yizhou Duan (Peking University, P.R. China); Zongming Guo (Peking University, P.R. China)

IVMSP-P5.4 Transparent Encryption for HEVC Using Bit-Stream-Based Selective Coefficient Sign Encryption 1986
Heinz Hofbauer (University of Salzburg, Austria); Andreas Unterweger (University of Salzburg, Austria); Andreas Uhl (Salzburg University, Austria)

IVMSP-P5.5 Entropy based merging of context models for efficient arithmetic coding 1991
Tilo Strutz (Leipzig University of Telecommunications, Germany)

IVMSP-P5.6 Blocky Artifact Removal with Low-Rank Matrix Recovery 1996
Ming Yin (Guangdong University of Technology, P.R. China); Junbin Gao (Charles Sturt University, Australia); Yanfeng Sun (Beijing University of Technology, P.R. China); Shuting Cai (Guangdong University of Technology, P.R. China)

IVMSP-P5.7 Running Gaussian Reference-based Reconstruction for Video Compressed Sensing 2001
Wattanit Hotrakool (The University of Sheffield, United Kingdom); Charith Abhayaratne (The University of Sheffield, United Kingdom)

IVMSP-P5.8 An Adaptive Lighting Correction Method for Matched-Texture Coding 2006
Guoxin Jin (Northwestern University, USA); Thrasyvoulos N. Pappas (Northwestern University, USA); David L Neuhoff (University of Michigan, USA)

IVMSP-P5.9 Lossless/Near-Lossless Color Image Coding by Inverse Demosaicing 2011
Ryo Kuroiwa (The University of Kitakyushu, Japan); Ryo Matsuoka (The University of Kitakyushu, Japan); Seisuke Kyochi (The University of Kitakyushu, Japan); Keiichiro Shirai (Shinshu University Japan, Japan); Masahiro Okuda (The University of Kitakyushu, Japan)

IVMSP-P5.10 No-Reference Quality Assessment of HEVC Videos in Loss-Prone Networks 2015
Mohammed A. Aabed (Georgia Institute of Technology, USA); Ghassan AlRegib (Georgia Institute of Technology, USA)

IVMSP-P5.11 Accurate rate-distortion approximation for sparse Bernoulli-Generalized Gaussian models 2020
Mounir Kaaniche (Université Paris 13, France); Aurelia Fraysse (Universite Paris Sud, France); Beatrice Pesquet-Popescu (Télécom ParisTech, France); Jean-Christophe Pesquet (University Paris-Est, France)

IVMSP-P5.12 Image Compression Via Sparse Reconstruction 2025
Yuan Yuan (Hong Kong University of Science and Technology, Hong Kong); Oscar C. Au (HKUST, Hong Kong); Amin Zheng (The Hong Kong University of Science and Technology, Hong Kong); Haitao Yang (Huawei Technologies Co.,

BISP-P1: EEG and fMRI data processing

Room: Poster Area 7

AASP-P3: Audio Source Separation I, Music Information Retrieval I

Room: Poster Area 8
Chair: Laurent Daudet (Université Paris Diderot, France)

AASP-P3.4 Automatic Carrier Pitch Estimation for Coherent Demodulation 2119
Gregory Sell (Johns Hopkins University, USA)
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Julian M. Becker (RWTH Aachen University, Germany); Christian Rohlfing (RWTH Aachen University, Germany)
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AASP-P3.10 Linear regression-based adaptation of music emotion recognition models for personalization 2149
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Mi Tian (Queen Mary University of London, United Kingdom); Ajay Srinivasamurthy (Universitat Pompeu Fabra, Spain); Mark Sandler (Queen Mary University of London, United Kingdom); Xavier Serra (University Pompeu Fabra, Spain)
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IDSP-P1: Emerging Industrial Signal Processing Applications and Education

Room: Poster Area 9
Chair: Amir Said (LG Electronics Mobile Research, USA)
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Zhenhua Yu (Texas Instruments, USA); Arthur Redfern (Texas Instruments, USA); Lei Ding (Texas Instruments, USA)
IDSP-P1.3 Face Recognition using Distributed, Mobile Computing 2179
Gregorio Hinojos (New Mexico State University, USA); Phillip L De Leon (New Mexico State University, USA)
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Sakkarin Sinchai (King Mongkut's Institute of Technology Ladkrabang, Thailand); Sukkharak Sae-chia (Phranakhon Si Ayutthaya Rajabhat University & King Mongkut's Institute of Technology Ladkrabang, Thailand); Tulaya Limpiti (KMTIL, Thailand); Jeerasuda Koseeyaporn (KMITL, Thailand); Paramote Wardkein (KMITL, Algeria)
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Andrew Nadeau (University of Rochester, USA); Gaurav Sharma (University of Rochester, USA); Tolga Soyata (University of Rochester, USA)
IDSP-P1.7 An Auto-Focusing Noise Suppressor for Cellphone Movies Based on Phase Randomization and Power Compensation 2199
Ryoji Miyahara (NEC Engineering Ltd., Japan); Akihiko K. Sugiyama (NEC Corporation, Japan)
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Jagadeesh Sankaran (Texas Instruments, USA)
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Brian Beck (Georgia Institute of Technology, USA); Robert John Baxley (Georgia Tech Research Institute, USA)
IDSP-P1.10 A MATLAB-Based Magnitude Response Game for DSP Education 2214
Peter Casapicola (Graz University of Technology, Austria); Markus Poelzl (Graz University of Technology, Austria); Bernhard C. Geiger (Graz University of Technology, Austria)
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Mark Fowler (Binghamton University, USA)

IDSP-P1.12 Hands-On Real-Time DSP Teaching using Inexpensive ARM Cortex M4 Development Systems 2224

Donald Reay (Heriot-Watt University, United Kingdom)

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Adrian Rothenbuhler (Hewlett-Packard, USA); Cameron Wright (University of Wyoming, USA); Thad B. Welch (Boise State University, USA); Michael Morrow (University of Wisconsin - Madison, USA)

SAM-P2: DOA Estimation

Room: Poster Area 10

Chair: Ami Wiesel (Hebrew University in Jerusalem, Israel)

SAM-P2.1 Underdetermined DOA Estimation of Multi-path signals based on ICA and sparse reconstruction 2233

Xiong Kunlai (National University of Defense Technology, P.R. China); Zhang-Meng Liu (National University of Defense Technology, P.R. China); Zheng Liu (National University of Defense Technology, P.R. China); Daowang Feng (National University of Defense Technology, P.R. China); Wenli Jiang (National University of Defense Technology, P.R. China)

SAM-P2.2 Toeplitz rectification and DoA estimation with MUSIC 2237

Pascal Vallet (Institut Polytechnique de Bordeaux & IMS, France); Philippe Loubaton (Université de Marne La Vallée, France)

SAM-P2.3 High Resolution Direction Finding from Rectangular Higher Order Cumulant Matrices: The Rectangular 2q-MUSIC Algorithms 2242

Hanna Becker (I3S Laboratory, France); Pascal Chevalier (Thales Communication, France); Martin Haardt (Ilmenau University of Technology, Germany)

SAM-P2.4 DOA estimation performances of multi-parametric MUSIC in presence of modeling errors - case of coherent multi-paths 2247

Anne Ferréol (Thales Communications, France); Cyrile Delestre (ENS Cachan & Thales, France); Pascal Larzabal (ENS-Cachan, PARIS, France)

SAM-P2.5 Nonuniform Linear Antenna Arrays for Enhanced Near Field Source Localization 2252

Houcem Gazzah (University of Sharjah, UAE); Jean Pierre Delmas (UMR CNRS 5157 - CITI Department, France)

SAM-P2.6 A Computationally efficient source localization method for a mixture of Near-Field and Far-Field narrowband signals 2257

Weiliang Zuo (Xi'an Jiaotong University, P.R. China); Jingmin Xin (Xi'an Jiaotong University, P.R. China); Jiasong Wang (State Key Laboratory of Astronautic Dynamics, P.R. China); Nanning Zheng (Xi'an Jiaotong University, P.R. China); Akira Sano (Keio University, Japan)

SAM-P2.7 ML Estimation and CRB for Narrowband AR Signals on a Sensor Array 2262

Langford White (The University of Adelaide, Australia); Peter Sherman (Iowa State University, USA)

SAM-P2.8 DOA Estimation Exploiting Coprime Arrays with Sparse Sensor Spacing 2267

Yimin D. Zhang (Villanova University, USA); Si Qin (Villanova University, USA); Moeness G. Amin (Villanova University, USA)

SAM-P2.9 A Signal Adaptive Array Interpolation Approach with Reduced Transformation Bias for DOA estimation of Highly Correlated Signals 2272

Marco Marinho (University of Brasilia, Brazil); Felix Antreich (German Aerospace Center (DLR), Germany); João Paulo Carvalho Lustosa da Costa (Universidade de Brasília (UnB), Brazil); Josef A. Nossek (TU Munich, Germany)

SAM-P2.10 Asymptotic Performance Analysis of ESPRIT-Type Algorithms for Circular and Strictly Non-circular Sources With Spatial Smoothing 2277

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

SAM-P2.11 DOA Estimation of Speech Source in Noisy Environments with Weighted Spatial Bispectrum Correlation Matrix 2282

Wei Xue (Institute of Automation Chinese Academy of Sciences, P.R. China); Shan Liang (Institute of Automation Chinese Academy of Sciences, P.R. China); Wen-ju Liu (Institute of Automation, Chinese Academy of Sciences, P.R. China)

SAM-P2.12 Robust DOA Estimation of Multiple Speech Sources 2287

Nguyen Thi Ngoc Tho (Advanced Digital Sciences Center, Singapore); Zhao Shengkui (Advanced Digital Sciences Center, Singapore); Douglas L. Jones (University of Illinois at Urbana-Champaign, USA)

SAM-P2.13 Search-Free Decentralized Direction-of-Arrival Estimation Using Common Roots for Non-Coherent Partly Calibrated Arrays 2292

Wassim Suleiman (TU Darmstadt & LOEWE Schwerpunkt Cocoon, Germany); Pouyan Parvazi (TU Darmstadt, Germany)

SAM-P2.14 Single Snapshot DOA Estimation Using Compressed Sensing 2297

Stefano Fortunati (University of Pisa, Italy); Raffaele Grasso (CMRE, Italy); Fulvio Gini (University of Pisa, Italy); Maria S. Greco (University of Pisa, Italy)

10:30 AM - 11:00 AM

Coffee break

11:00 AM - 1:00 PM

SLTC-L5: Error Detection in Automatic Speech Recognition

Room: Cavaniglia

Chairs: Michiel Bacchiani (Google Inc., USA), Elmar Nöth (Universität Erlangen Nürnberg, Germany)

11:00 Detecting Deletions in ASR Output 2302

Matthew Seigel (University of Cambridge, United Kingdom); Phil Woodland (University of Cambridge, United Kingdom)

11:20 Direct Sub-word Confidence Estimation with Hidden-state Conditional Random Fields 2307
Matthew Seigel (University of Cambridge, United Kingdom); Phil Woodland (University of Cambridge, United Kingdom)
11:40 ASR Error Detection using Recurrent Neural Network Language Model and Complementary ASR 2312
Yik-Cheung Tam (SRI International, USA); Yun Lei (SRI International, USA); Jing Zheng (Google, USA); Wen Wang (SRI International, USA)
12:00 A Phonetic Similarity Based Noisy Channel Approach to ASR Hypothesis Re-Ranking and Error Detection 2317
Martin Hacker (University of Erlangen-Nuremberg, Germany); Elmar Nöth (Universität Erlangen Nürnberg, Germany)
12:20 Exploiting un-transcribed foreign data for speech recognition in well-resourced languages 2322
David Imseng (Idiap Research Institute, Switzerland); Blaise Potard (IDIAP Research Institute, Switzerland); Petr Motlicek (IDIAP Research Institute, Switzerland); Alexandre Nanchen (Idiap Research Institute, Switzerland); Hervé Bourlard (Idiap Research Institute, Switzerland)
12:40 Close/distant talker discrimination based on kurtosis of linear prediction residual signals 2327
Kohei Hayashida (Ritsumeikan University, Japan); Masato Nakayama (Ritsumeikan University, Japan); Takanobu Nishiura (Ritsumeikan University, Japan); Yoichi Yamashita (Ritsumeikan University, Japan); Toshiharu Horiuchi (KDDI R&D Laboratories Inc., Japan); Tsuneo Kato (KDDI R&D Laboratories Inc., Japan)

SPTM-L3: Compressed Sensing II

Room: Basilica
Chairs: Mike Davies (University of Edinburgh, United Kingdom), Konstantinos Slavakis (University of Minnesota, USA)
11:00 Efficient Recovery of Principal Components from Compressive Measurements with Application to Gaussian Mixture Model Estimation 2332
Farhad Pourkamali Anaraki (University of Colorado at Boulder, USA); Shannon Hughes (University of Colorado at Boulder, USA)
11:20 Modulated Measurement Matrix Design for Compressed Sensing 2337
Chunli Guo (University of Edinburgh, United Kingdom); Mike Davies (University of Edinburgh, United Kingdom)
11:40 Lie Operators for Compressive Sensing 2342
Chinmay Hegde (MIT, USA); Aswin Sankaranarayanan (Carnegie Mellon University, USA); Richard Baraniuk (Rice University, USA)
12:00 Robust Primary User Identification using Compressive Sampling for Cognitive Radios 2347
Eva Lagunas (Universitat Politècnica de Catalunya, Spain); Montse Nájar (UPC, Spain)
12:20 the Modulated E-spline with Multiple subbands and its application to sampling wavelet-sparse signals 2352
Yingsong Zhang (Imperial College London, United Kingdom); Pier Luigi Dragotti (Imperial College London, United Kingdom)
12:40 Maximum Entropy Hadamard Sensing of Sparse and Localized Signals 2357
Valerio Cambareri (University of Bologna, Italy); Riccardo Rovatti (ARCES, Italy); Gianluca Setti (University of Ferrara, Italy)

SS5: Seismic Signal Processing

Room: Polveriera
Chairs: Daniela Donno (MINES ParisTech, France), Renato R Lopes (University of Campinas, Brazil)
11:00 Seismic Signal Processing: Some Recent Advances 2362
Leonardo T Duarte (University of Campinas, Brazil); Daniela Donno (MINES ParisTech, France); Renato R Lopes (University of Campinas, Brazil); João Romano (State University of Campinas, Brazil)
11:20 High-resolution imaging of seismic data: how to combine wave-theory with signal processing techniques 2367
Leiv-J. Gelius (University of Oslo, Norway)
11:40 Fault Detection in Seismic Datasets Using Hough Transform 2372
Zhen Wang (Georgia Institute of Technology, USA); Ghassan AlRegib (Georgia Institute of Technology, USA)
12:00 A constrained-based optimization approach for seismic data recovery problems 2377
Mai Qyuen Pham (IFP Energies Nouvelles, France); Caroline Chaux (Aix-Marseille Université & CNRS UMR 7353, France); Laurent Duval (IFP Energies Nouvelles, France); Jean-Christophe Pesquet (University Paris-Est, France)
12:20 Reconstruction of signals from highly aliased multichannel samples by Generalized Matching Pursuit 2382
Massimiliano Vassallo (Schlumberger London Technology Centre, United Kingdom); Ali Ozbek (Schlumberger Cambridge Research, United Kingdom); Yousif I. Kamil (Schlumberger London Technology Centre, United Kingdom); Dirk-Jan van Manen (Schlumberger Cambridge Research, United Kingdom); Kurt Eggenberger (Schlumberger, USA)
12:40 Sparse Inversion of the Radon coefficients in the presence of erratic noise with application to simultaneous seismic source processing 2386
Mauricio D. Sacchi (University of Alberta, Canada)

MLSP-L1: Bayesian Methods

Room: Scherma
Chair: Cédric Févotte (CNRS & Laboratoire Lagrange (CNRS, Observatoire de la Côte d'Azur & Université de Nice Sophia Antipolis), France)
11:00 Probabilistic 3D Mapping based on GNSS SNR Measurements 2390

Andrew T. Irish (University of California, Santa Barbara, USA); Jason T. Isaacs (University of California, Santa Barbara, USA); François Quitin (Université Libre de Bruxelles (ULB), Belgium); Joao P. Hespanha (University of California, Santa Barbara, USA); Upamanyu Madhow (University of California, Santa Barbara, USA)

11:20 Learning to classify with possible sensor failures 2395
Tianpei Xie (University of Michigan, Ann Arbor, USA); Nasser Nasrabadi (US Army Research Laboratory, USA); Alfred Hero III (University of Michigan, USA)

11:40 Speech Decoloration based on the Product-of-Filters Model 2400
Dawen Liang (Columbia University, USA); Daniel P W Ellis (Columbia University, USA); Matthew D Hoffman (Adobe Research, USA); Gautham J Mysore (Adobe Research, USA)

12:00 Mondrian hidden Markov model for music signal processing 2405
Masahiro Nakano (NTT Communication Science Laboratories, NTT Corporation, Japan); Yasunori Ohishi (NTT Communication Science Laboratories, NTT Corporation, Japan); Hirokazu Kameoka (The University of Tokyo, Japan); Ryo Mukai (NTT Communication Science Laboratories, NTT Corporation, Japan); Kunio Kashino (Nippon Telegraph and Telephone Corporation, Japan)

12:20 Physical Layer Authentication based on Channel Response Tracking using Gaussian Processes 2410
Steven Van Vaerenbergh (University of Cantabria, Spain); Óscar González (University of Cantabria, Spain); Javier Vía (University of Cantabria, Spain); Ignacio Santamaría (University of Cantabria, Spain)

12:40 Modeling Spatial Extremes via Ensemble-of-Trees of Pairwise Copulas 2415
Hang Yu (Nanyang Technological University, Singapore); Wayne Uy (Nanyang Technological University, Singapore); Justin Dauwels (Nanyang Technological University, Singapore)

SPCOM-L2: Interference management

Room: Teatrino
Chair: Wolfgang Utschick (Technische Universität München, Germany)

11:00 A Sparse MLE Approach for Joint Interference Mitigation and Data Recovery 2420
An Liu (Hong Kong University of Science and Technology, Hong Kong); Vincent Lau (Hong Kong University of Science and Technology, Hong Kong); Xiangming Kong (Huawei Technologies CO., LTD, P.R. China)

11:20 Opportunistic Interference Alignment for MIMO Interfering Broadcast Channels 2425
Hyun Jong Yang (UNIST, Korea); Won-Yong Shin (Dankook University, Korea); Bang Chul Jung (Gyeongsang National University, Korea); Changho Suh (KAIST, Korea)

11:40 The Design of Optimal Receiver for Opportunistic Interference Alignment 2430
Hyun Jong Yang (UNIST, Korea); Bang Chul Jung (Gyeongsang National University, Korea); Won-Yong Shin (Dankook University, Korea); Arogyaswami Paulraj (Stanford University, USA)

12:00 Robust Optimization for Multi-cell Interfering MIMO-MAC under Limited Feedback 2435
Pan Cao (Dresden University of Technology, Germany); Eduard Jorswieck (TU Dresden, Germany)

12:20 Partial CSI Feedback Design for Interference Alignment in MIMO Cellular Networks 2440
Xiongbin Rao (the Hong Kong University of Science and Technology, Hong Kong); Vincent Lau (Hong Kong University of Science and Technology, Hong Kong)

12:40 Retrospective Interference Alignment for the 3-user MIMO Interference Channel with delayed CSIT 2445
Marc Torrellas (Technical University of Catalonia, Spain); Adrian Agustin (Universitat Politècnica de Catalunya (UPC), Spain); Josep Vidal (Universitat Politècnica de Catalunya, Spain)

IVMSP-L3: Image Enhancement

Room: Volta
Chair: Gaurav Sharma (University of Rochester, USA)

11:00 Image Denoising by Targeted External Databases 2450
Enming Luo (University of California San Diego, USA); Stanley H Chan (Harvard University, USA); Truong Nguyen (University of California, San Diego, USA)

11:20 Selectively Detail-enhanced Exposure Fusion via a Gradient Domain Content Adaptive Bilateral Filter 2455
Zhengguo Li (Institute for Inforcomm Research, Singapore); Jinghong Zheng (Institute for Infocomm Research, Singapore)

11:40 A New Image Filtering Method: Nonlocal Image Guided Averaging 2460
Jing Zhang (University of Science and Technology of China, P.R. China); Yang Cao (University of Science and Technology of China, P.R. China); Zengfu Wang (University of Science and Technology of China, P.R. China)

12:00 Collaborative Noise Reduction using Color-Line Model 2465
Wei-Chih Tu (National Taiwan University, Taiwan); Chia-Liang Tsai (National Taiwan University, Taiwan); Shao-Yi Chien (National Taiwan University, Taiwan)

12:20 Epitomic Image Colorization 2470
Yingzhen Yang (University of Illinois at Urbana-Champaign, USA); Xinqi Chu (University of Illinois at Urbana-Champaign, USA); Tian Tsong Ng (Institute for Infocomm Research, A*STAR, Singapore); Alex Yong-Sang Chia (Institute for Infocomm Research, Singapore); Jianchao Yang (Adobe Research, USA); Hailin Jin (Adobe Research, USA); Thomas S Huang (University of Illinois at Urbana-Champaign, USA)

12:40 A statistical derivation of an automatic tone mapping algorithm for wide dynamic range display 2475
Alain Horé (University of Calgary, Canada); Orly Yadid-Pecht (University of Calgary, Canada)

SLTC-P7: Features in Speech Recognition

Room: Poster Area 1
Chair: Torbjorn Svendsen (Norwegian University of Science and Technology, Norway)

SLTC-P7.1 MATLAB Exercises in Support of Teaching Digital Speech Processing 2480
Lawrence Rabiner (Rutgers University, USA)

SLTC-P7.2 Subband Hybrid Feature for Multi-stream Speech Recognition 2484
Feipeng Li (Johns Hopkins University & Center for Language and Speech Processing, USA)

SLTC-P7.3 Music Tonality Features for Speech/Music Discrimination 2489
Gregory Sell (Johns Hopkins University, USA); Pascal Clark (Johns Hopkins University HLTCOE, USA)

SLTC-P7.4 A Pitch Extraction Algorithm Tuned For Automatic Speech Recognition 2494
Pegah Ghahremani (Johns Hopkins University, USA); Bagher BabaAli (University of Tehran, Iran); Daniel Povey (Johns Hopkins University, USA); Korbinian Riedhammer (ICSI, Berkeley, USA); Jan Trmal (Johns Hopkins University, USA); Sanjeev Khudanpur (Johns Hopkins University, USA)

SLTC-P7.5 Multi-view learning with supervision for transformed bottleneck features 2499
Raman Arora (Johns Hopkins University, USA); Karen Livescu (Toyota Technological Institute at Chicago, USA)

SLTC-P7.6 Joint noise adaptive training for robust automatic speech recognition 2504
Arun Narayanan (The Ohio State University, USA); DeLiang Wang (Ohio State University, USA)

SLTC-P7.7 Analysis-by-synthesis feature estimation for robust automatic speech recognition using spectral masks 2509
Michael Mandel (The Ohio State University, USA); Arun Narayanan (The Ohio State University, USA)

SLTC-P7.8 A Discriminatively Trained Hough Transform for Frame-Level Phoneme Recognition 2514
Jonathan Dennis (Institute for Infocomm Research & Nanyang Technological University, Singapore); Eng-Siong Chng (Nanyang Technological University, Singapore); Tran Huy Dat (Institute for Infocomm Research, Singapore); Haizhou Li (Institute for Infocomm Research, Singapore)

SLTC-P7.9 Analyzing Convolutional Neural Networks for Speech Activity Detection in Mismatched Acoustic Conditions 2519
Samuel Thomas (IBM Research & IBM TJ Watson Research Center, USA); Sriram Ganapathy (IBM Research & IBM TJ Watson, USA); George Saon (IBM T. J. Watson Research Center, USA); Hagen Soltau (IBM, USA)

SLTC-P7.10 Learning Dynamic Features with Neural Networks for Phoneme Recognition 2524
Xin Zheng (Tsinghua University, P.R. China); Zhiyong Wu (Graduate School at Shenzhen, Tsinghua University, P.R. China); Helen Meng (, Hong Kong); Lianhong Cai (Tsinghua University, P.R. China)

SLTC-P7.11 Contrastive Auto-encoder for Phoneme Recognition 2529
Xin Zheng (Tsinghua University, P.R. China); Zhiyong Wu (Graduate School at Shenzhen, Tsinghua University, P.R. China); Helen Meng (, Hong Kong); Lianhong Cai (Tsinghua University, P.R. China)

SLTC-P7.12 Transductive Nonnegative Matrix Factorization for Semi-Supervised High-Performance Speech Separation 2534
Naiyang Guan (National University of Defense Technology, P.R. China); Long Lan (National University of Defense Technology, P.R. China); Dacheng Tao (University of Technology, Sydney, Australia); Zhigang Luo (National University of Defense Technology, P.R. China); Xuejun Yang (National University of Defense Technology, P.R. China)

SLTC-P7.13 Automatic phonetic segmentation in Mandarin Chinese: boundary models, glottal features and tone 2539
Jiahong Yuan (University of Pennsylvania, USA); Neville Ryant (University of Pennsylvania, USA); Mark Liberman (University of Pennsylvania, USA)

SLTC-P7.14 UT-VOCAL EFFORT II: Analysis and Constrained-Lexicon Recognition of Whispered Speech 2544
Shabnam Ghaffarzadegan (University of Texas at Dallas, USA); Hynek Boril (University of Texas at Dallas, USA); John Hansen (University of Texas at Dallas, USA)

SLTC-P8: Statistical speech synthesis

Room: Poster Area 2
Chair: Tomoki Toda (NAIST, Japan)

SLTC-P8.1 Tongue shape conversion with non-parallel training data 2549
Hao Li (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, P.R. China); Minghao Yang (The National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, P.R. China); Jianhua Tao (Institute of Automation, Chinese Academy of Sciences, P.R. China)

SLTC-P8.2 Dialogue Context Sensitive HMM-Based Speech Synthesis 2554
Pirros Tsiakoulis (University of Cambridge, United Kingdom); Catherine Breslin (University of Cambridge, United Kingdom); Milica Gasic (University of Cambridge, United Kingdom); Matthew Henderson (University of Cambridge, United Kingdom); Dongho Kim (University of Cambridge, United Kingdom); Martin Szummer (University of Cambridge, United Kingdom); Blaise Thomson (Cambridge University, United Kingdom); Steve Young (United Kingdom & Cambridge University, United Kingdom)

SLTC-P8.3 Integration of speaker and pitch adaptive training for HMM-based singing voice synthesis 2559
Kanako Shirota (Nagoya Institute of Technology, Japan); Kazuhiro Nakamura (Nagoya Institute of Technology, Japan); Kei Hashimoto (Nagoya Institute of Technology, Japan); Keiichiro Oura (Nagoya Institute of Technology, Japan); Yoshihiko Nankaku (Nagoya Institute of Technology, Japan); Keiichi Tokuda (Nitech, Japan)

SPTM-P7: Digital and Multirate Signal Processing

Room: Poster Area 3
Chair: P. p. Vaidyanathan (Cal Tech., USA)

IFS-P1: Multimedia Forensics

Room: Poster Area 4
Chair: Marco Tagliasacchi (Politecnico di Milano, Italy)

SPCOM-P4: Relaying

Room: Poster Area 5

IVMSP-P6: Image Analysis I

Room: Poster Area 6
Chair: Kenneth Lam (Hong Kong Polytechnic University, Hong Kong)

BISP-P2: Biomedical Informatics and Image Analysis II

Room: Poster Area 7
Chair: Jean-Christophe Olivo-Marin (Institut Pasteur, France)

Shaikh Anowarul Fattah (Bangladesh University of Engineering and Technology, Bangladesh); Mahjabin Maksud (BUET, Bangladesh); Ayan Kumar Biswas (BUET, Bangladesh); Nazia Zannat (BUET, Bangladesh); Yuhui Luo (Princeton University, USA); S. y. Kung (Princeton University, USA)

BISP-P2.7 Quantitative control of the error bounds of a fast super-resolution technique for microscopy and astronomy 2853

Pierre Chainais (INRIA Lille-Nord Europe & Clermont University, France); Pierre Pfennig (Ecoel Centrale Lille, France); Aymeric Leray (IRI CNRS USR 3078 - University Lille 1, France)

AASP-P4: Spatial Audio I, Signal Enhancement I

Room: Poster Area 8

Chair: John Hershey (MERL, USA)

AASP-P4.1 Gaussian Process Models for HRTF based 3D Sound Localization 2858

Yuancheng Luo (University of Maryland, USA); Dmitry Zotkin (University of Maryland, College Park, USA); Ramani Duraiswami (University of Maryland, USA)

AASP-P4.2 Beyond Virtual Loudspeakers: HRTF Optimization for Multichannel Binaural Synthesis N/A

Charles Verron (Black Sound, France); Rozenn Nicol (Orange Labs, France); Marc Emerit (Orange Labs, USA)

AASP-P4.3 Large Deformation Diffeomorphic Metric Mapping and Fast-Multipole Boundary Element Method provide new insights for Binaural Acoustics 2863

Reza Zolfaghari (University of Sydney, Australia); Nicolas Epain (University of Sydney, Australia); Craig Jin (University of Sydney, Australia); Joan Glaunes (University Paris Descartes, Australia); Anthony Tew (University of York, Australia)

AASP-P4.4 A Study on the Frequency-Domain Primary-Ambient Extraction for Stereo Audio Signals 2868

Jianjun HE (Nanyang Technological University, Singapore); Woon Seng Gan (Nanyang Technological University, Singapore); Ee Leng Tan (Nanyang Technological University, Singapore)

AASP-P4.5 The Influence of Low Order Reflections on the Interaural Time Differences in Crosstalk Cancellation Systems 2873

Dimitrios Kosmidis (Fraunhofer IIS, Germany); Yesenia Lacouture-Parodi (HUAWEI European Research Center, Germany); Emanuël Habets (International Audio Laboratories Erlangen, Germany)

AASP-P4.6 Down-Mixing Using Coherence Suppression 2878

Alexander Adami (International Audio Laboratories Erlangen, Germany); Emanuël Habets (International Audio Laboratories Erlangen, Germany); Juergen Herre (International Audio Laboratories Erlangen, Germany)

AASP-P4.7 Coupled Dictionary Training for Exemplar-based Speech Enhancement 2883

Deepak Baby (KU Leuven, Belgium); Tuomas Virtanen (Tampere University of Technology, Finland); Tom Barker (Tampere University of Technology, Finland); Hugo Van hamme (KU Leuven, Belgium)

AASP-P4.8 Localization of Impulsive Disturbances in Archive Audio Signals Using Predictive Matched Filtering 2888

Maciej Niedźwiecki (Gdansk University of Technology, Poland); Marcin Ciołek (Gdansk University of Technology, Poland)

AASP-P4.9 Employing Phase Information for Audio Denoising 2893

Ilker Bayram (Istanbul Technical University, Turkey)

AASP-P4.10 Sparse Denoising of Audio by Greedy Time-Frequency Shrinkage 2898

Gautam Bhattacharya (McGill University, Canada); Philippe Depalle (McGill University, Canada)

AASP-P4.11 Single-channel speech presence probability estimation using inter-frame and inter-band correlations 2903

Hajar Momeni (Yazd University, Iran); Emanuël Habets (International Audio Laboratories Erlangen, Germany); Hamid Reza Abutalebi (Yazd University, Iran)

MLSP-P1: Pattern Recognition and Classification

Room: Poster Area 9

Chair: Konstantinos Diamantaras (TEI of Thessaloniki, Greece)

MLSP-P1.1 A network of cooperative learners for data-driven stream mining 2908

Luca Canzian (University of California, Los Angeles, USA); Mihaela van der Schaar (University of California, Los Angeles (UCLA), USA)

MLSP-P1.2 Parsimonious Gaussian process models for the classification of multivariate remote sensing images 2913

Mathieu Fauvel (University of Toulouse, France); Charles Bouveyron (Université Paris Descartes, France); Stéphane Girard (INRIA, France)

MLSP-P1.3 Real-Time Action Recognition Based on Cumulative Motion Shapes 2917

Marlon Alcantara (University of Campinas, Brazil); Thierry Moreira (University of Campinas, Brazil); Helio Pedrini (Institute of Computing, University of Campinas, Brazil)

MLSP-P1.4 Conformal Predictors for Online Track Classification 2922

Michael Pekala (Johns Hopkins University Applied Physics Laboratory, USA); I-Jeng Wang (Johns Hopkins University Applied Physics Lab., USA); Ashley J Llorens (JHU/APL, USA)

MLSP-P1.5 Training ensemble of diverse classifiers on feature subsets 2927

Rahul Gupta (University of Southern California, USA); Kartik Audhkhasi (University of Southern California, USA); Shrikanth Narayanan (University of Southern California, USA)

MLSP-P1.6 Splitting-While-Merging Framework for Clustering High-Dimension Data with Component-Wise Expectation Conditional Maximisation 2932

Rui Fa (Brunel University, United Kingdom); Basel Abu-Jamous (Brunel University, United Kingdom); David Roberts (The University of Oxford, United Kingdom); Asoke Nandi (Brunel University, United Kingdom)

MLSP-P1.7 K-mappings and regression trees 2937

Yi Wang (Duke University & SAMSI, USA); Arthur Szlam (City College of New York, USA)

MLSP-P1.8 Semi-Supervised Learning Using a Graph-based Phase Field Model for Imbalanced Data Set Classification 2942
Aymen El Ghoul (Telecom ParisTech, France); Hichem Sahbi (Telecom ParisTech, France)
MLSP-P1.9 Sensing-aware kernel SVM 2947
Weicong Ding (Boston University, USA); Prakash Ishwar (Boston University, USA); Venkatesh Saligrama (Boston University, USA); William Karl (Boston University, USA)
MLSP-P1.10 Fast Margin-based Cost-Sensitive Classification 2952
Feng Nan (Boston University, USA); Joe Wang (Boston University, USA); Kirill Trapeznikov (Boston University, USA); Venkatesh Saligrama (Boston University, USA)
MLSP-P1.11 Recycled Linear Classifiers for Multiclass Classification 2957
Akshay Soni (University of Minnesota, USA); Jarvis D. Haupt (University of Minnesota, USA); Fatih Porikli (Australian National University, Australia)

SAM-P3: Detection and Estimation

Room: Poster Area 10
Chair: Jean Pierre Delmas (UMR CNRS 5157 - CITI Department, France)
SAM-P3.1 Bayesian Cramer-Rao Type Bound for Risk-Unbiased Estimation With Deterministic Nuisance Parameters 2962
Shahar Bar (Ben-Gurion University of the Negev, Israel); Joseph Tabrikian (Ben-Gurion University of the Negev, Israel)
SAM-P3.2 Estimating the number of signals in the presence of nonuniform noise 2967
Roberto Diversi (DEIS – University of Bologna, Italy); Roberto Guidorzi (DEIS – University of Bologna, Italy); Umberto Soverini (University of Bologna, Italy)
SAM-P3.3 Joint Angle and Frequency Estimation Using Structured Least Squares 2972
Cheng Qian (Harbin Institute of Technology Shenzhen Graduate School, P.R. China); Lei Huang (Beijing Institute of Technology, P.R. China); Yunmei Shi (Harbin Institute of Technology Shenzhen Graduate School, Shenzhen, P.R. China); Hing Cheung So (City University of Hong Kong, Hong Kong)
SAM-P3.4 Time delay estimation in the presence of clock frequency error 2977
Sen Zhong (University of Electronic Science and Technology of China, P.R. China); Wei Xia (University of Electronic Science and Technology of China, P.R. China); Zi-Shu He (University of Electronics Science and Technology of China, P.R. China); Jinfeng Hu (UESTC, P.R. China); Jun Li (Uestc\, P.R. China)
SAM-P3.5 Joint Frequency and Phasor Estimation in Unbalanced Three-Phase Power Systems 2982
Tirza Routtenberg (Cornell University, USA); Lang Tong (Cornell University, USA)
SAM-P3.6 Multichannel Detection of an Unknown Rank-One Signal with Uncalibrated Receivers 2987
Daniel E Hack (Matrix Research, USA); Lee K Patton (Matrix Research, USA); Braham Himed (AFRL, USA)
SAM-P3.7 Fourth-Order Tensor Method for Blind Spatial Signature Estimation 2992
Paulo Gomes (Universidade Federal do Ceará, Brazil); André Almeida (Federal University of Ceará & Wireless Telecom Research Group - GTEL, Brazil); João Paulo Carvalho Lustosa da Costa (Universidade de Brasília (UnB), Brazil)
SAM-P3.8 Conditional Cramér-Rao Lower Bounds for DOA Estimation and Array Calibration N/A
Zhang-Meng Liu (National University of Defense Technology, P.R. China)
SAM-P3.9 Sparse Array-Based Room Transfer Function Estimation for Echo Cancellation N/A
Atulya Yellepeddi (Massachusetts Institute of Technology & Woods Hole Oceanographic Institution, USA); Dinei Florencio (Microsoft Research, USA)
SAM-P3.10 Random Distributed Detection with an application to Cognitive Radio Byzantine Attack 2997
Uri Rogers (Boise State University, USA); Jun Guo (Boise State University, USA); Xia Li (Boise State University, USA); Hao Chen (Boise State University, USA)
SAM-P3.11 Detection of Correlated Time Series in a Network of Sensor Arrays 3002
Nicholas Klausner (Colorado State University, USA); M. r. Azimi-Sadjadi (Colorado State University, USA); Louis Scharf (Colorado State, USA)
SAM-P3.12 A Low Power Self-capacitive Touch Sensing Analog Front End with Sparse Multi-touch Detection 3007
Chenchi Luo (Texas Instruments, USA)
SAM-P3.13 Blind Beamforming Techniques for Automatic Identification System using GSVD and Tracking 3012
Mu Zhou (Delft University of Technology, The Netherlands); Alle Jan van der Veen (Delft University, The Netherlands)

1:00 PM - 2:30 PM

Lunch Time

2:30 PM - 2:45 PM

Opportunities for International Research Support through the US Office of Naval Research-Global (ONRG)

2:45 PM - 3:45 PM

PT2: Plenary Talk: Model-Based Signal Processing (Room Cavaniglia)

3:45 PM - 4:15 PM

Coffee break

4:15 PM - 6:15 PM

SLTC-L6: Articulatory features in speech processing

Room: Cavaniglia
Chairs: John Hansen (University of Texas at Dallas, USA), Sabato M Siniscalchi (University of Enna Kore, Italy)

4:15 Articulatory features from deep neural networks and their role in speech recognition 3017
Vikramjit Mitra (SRI International, USA); Ganesh Sivaraman (University of Maryland, College Park, MD, USA); Hosung Nam (Haskins Laboratories, New Haven, CT, USA); Carol Espy-Wilson (University of Maryland, USA); Elliot Saltzman (Boston University, Boston, MA, USA)

4:35 Refinements of Regression-based Context-Dependent Modelling of Deep Neural Networks for Automatic Speech Recognition 3022
Guangsen Wang (National University of Singapore, Singapore); Khe Chai Sim (National University of Singapore, Singapore)

4:55 Normalization of articulatory data through Procrustes transformations and analysis-by-synthesis 3027
Daniel Felps (Texas A&M University, USA); Sandesh Aryal (Texas A&M University, USA); Ricardo Gutierrez-Osuna (Texas A&M University, USA)

5:15 A sparse smoothing approach for Gaussian mixture model based acoustic-to-articulatory inversion 3032
Prasad Sudhakar (Universite Catholique de Louvain, Belgium); Laurent Jacques (University of Louvain, Belgium); Prasanta Kumar Ghosh (Indian Institute of Science, India)

5:35 The Effect of Speaking Rate on Audio and Visual Speech 3037
Sarah Taylor (Disney Research, USA); Barry-John Theobald (University of East Anglia, United Kingdom); Iain Matthews (Disney Research, USA)

5:55 Trajectory Analysis of Speech using Continuous State Hidden Markov Models 3042
Philip Weber (University of Birmingham, United Kingdom); Steve Houghton (University of Birmingham, United Kingdom); Colin Champion (The University of Birmingham, United Kingdom); Martin Russell (University of Birmingham, United Kingdom); Peter Jancovic (University of Birmingham, United Kingdom)

SPTM-L4: Classification and Pattern Recognition

Room: Basilica
Chairs: Prakash Ishwar (Boston University, USA), Todd Moon (Utah State University, USA)

4:15 Improvement of utterance clustering by using employees' sound and area data 3047
Tetsuya Kawase (Gifu University, Japan); Masanori Takehara (Gifu University, Japan); Satoshi Tamura (Gifu University, Japan); Satoru Hayamizu (Gifu University, Japan); Ryuhei Tenmoku (AIST, Japan); Takeshi Kurata (AIST, Japan)

4:35 Acoustic Feature Extraction By Statistics Based Local Binary Pattern For Environmental Sound Classification 3052
Takumi Kobayashi (National Institute of Advanced Industrial Science and Technology, Japan); Jiaxing Ye (National Institute of Advanced Industrial Science and Technology (AIST), Japan)

4:55 Spectral Clustering with Imbalanced Data 3057
Jing Qian (Boston University, USA); Venkatesh Saligrama (Boston University, USA)

5:15 Subspace Learning in Minimax Detection 3062
Raja Fazliza Raja Suleiman (Université de Nice Sophia Antipolis, France); David Mary (Université de Nice Sophia-Antipolis, France); André Ferrari (Université de Nice Sophia-Antipolis, France)

5:35 Information-Theoretic Criteria for the Design of Compressive Subspace Classifiers 3067
Matthew Nokleby (Duke University, USA); Miguel Rodrigues (University College London, United Kingdom); Robert Calderbank (Duke University, USA)

5:55 Sparse Adaptive Possibilistic Clustering 3072
Spyridoula Xenaki (National Observatory of Athens, Greece); Konstantinos Koutroumbas (National Observatory of Athens, Greece); Athanasios A. Rontogiannis (National Observatory of Athens, Greece)

SS6: Dictionary-based processing of single- and multi-channel audio

Room: Polveriera
Chairs: Peter Balazs (Austrian Academy of Sciences, Austria), Marco Liuni (IRCAM, France)

4:15 A General Framework For Dictionary Based Audio Fingerprinting 3077
Manuel Moussallam (Institut Langevin - ESPCI ParisTech, France); Laurent Daudet (Université Paris Diderot, France)

4:35 Online Non-negative Tensor Deconvolution for Source Detection in 3DTV Audio 3082
Yuki Mitsufuji (Sony Corporation, Japan); Marco Liuni (IRCAM, France); Alex Baker (IRCAM, United Kingdom); Axel Roebel (IRCAM, France)

4:55 Hearing behind walls: localizing sources in the room next door with cosparsity 3087
Srđan Kitić (INRIA, France); Nancy Bertin (IRISA - CNRS UMR6074 & Inria, France); Rémi Gribonval (INRIA, France)

5:15 Active-set Newton algorithm for non-negative sparse coding of audio 3092
Tuomas Virtanen (Tampere University of Technology, Finland); Bhiksha Raj (Carnegie Mellon University, USA); Jort Gemmeke (KU Leuven, Belgium); Hugo Van hamme (KU Leuven, Belgium)

5:35 Adaptive Gabor Frames by Projection onto Time-Frequency Subspaces 3097
Monika Doerfler (University of Vienna, Austria); Gino Velasco (University of the Philippines Diliman, Philippines)

5:55 Perceptual Matching Pursuit with Gabor dictionaries and time-frequency masking 3102
Gilles Chardon (Austrian Academy of Sciences, Austria); Thibaud Necciari (Austrian Academy of Sciences, Austria); Peter Balazs (Austrian Academy of Sciences, Austria)

AASP-L3: Music Transcription

Room: Scherma
Chairs: Bryan Pardo (Northwestern University, USA), Emmanuel Vincent (Inria Nancy - Grand Est, France)

4:15 Automatic transcription of pitched and unpitched sounds from polyphonic music 3107
Emmanouil Benetos (City University London, United Kingdom); Sebastian Ewert (Queen Mary University of London, United Kingdom); Tillman Weyde (City University, United Kingdom)

4:35 Polyphonic Piano Transcription using Non-negative matrix factorisation and group sparsity 3112
Ken O'Hanlon (Queen Mary University of London, United Kingdom); Mark D. Plumbley (Queen Mary University of London, United Kingdom)

4:55 Leveraging Repetition for Improved Automatic Lyric Transcription in popular music 3117
Matt McVicar (National Institute of Advanced Industrial Science and Technology, Japan); Daniel P W Ellis (Columbia University, USA); Masataka Goto (National Institute of Advanced Industrial Science and Technology (AIST), Japan)

5:15 Automatic Transcription of Guitar Tablature from Audio Signals in Accordance with Player's Proficiency 3122
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5:35 Transcribing Vocal Expression from Polyphonic Music 3127
Yukara Ikemiya (Kyoto University, Japan); Katsutoshi Itoyama (Kyoto University & Graduate School of Informatics, Japan); Hiroshi Okuno (Kyoto University, Japan)

5:55 Enhancing downbeat estimation when facing different music styles 3132
Simon Durand (Telecom ParisTech & CNRS-LTCI, France); Bertrand David (Telecom ParisTech, France); Gaël Richard (Institut Mines-Télécom, Télécom ParisTech, CNRS-LTCI, France)

SPCOM-L3: Massive MIMO

Room: Teatrino
4:15 Antenna Subset Selection Optimization for Large-scale MISO Constant Envelope Precoding 3137
Jiaxian Pan (The Chinese University of Hong Kong, Hong Kong); Wing-Kin Ma (The Chinese University of Hong Kong, Hong Kong)

4:35 Massive MIMO Systems with Hardware-Constrained Base Stations 3142
Emil Björnson (Supélec & KTH, Sweden); Michail Matthaiou (Queen's University Belfast, United Kingdom); Mérouane Debbah (Supelec, France)

4:55 Constant Envelope Signal Space Diversity 3147
Tumula V. K. Chaitanya (McGill University, Canada); Danyo Danev (Linkoping University, Sweden); Erik G. Larsson (Linköping University, Sweden)

5:15 Multi-Stream Iterative SVD for Massive MIMO Communication Systems under Time Varying Channels 3152
Junting Chen (HKUST, Hong Kong); Vincent Lau (Hong Kong University of Science and Technology, Hong Kong)

5:35 CSIT Estimation and Feedback for FDD Multi-user Massive MIMO Systems 3157
Xiongbin Rao (the Hong Kong University of Science and Technology, Hong Kong); Vincent Lau (Hong Kong University of Science and Technology, Hong Kong); Xiangming Kong (Huawei Technologies CO., LTD, P.R. China)

5:55 Uplink Performance of Massive MIMO Subject to Delayed CSIT and Anticipated Channel Prediction 3162
Anastasios Papazafeiropoulos (University of Edimburgh, United Kingdom); Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom)

SAM-L2: Hyperspectral Processing and Source Separation

Room: Volta
Chairs: Chong-Yung Chi (National Tsing Hua University, Taiwan), Dominic K. C. Ho (University of Missouri, USA)

4:15 Residual Component Analysis of Hyperspectral Images for Joint Nonlinear Unmixing and Nonlinearity Detection 3166
Yoann Altmann (University of Toulouse, France); Nicolas Dobigeon (University of Toulouse, France); Steve McLaughlin (Heriot Watt University, United Kingdom); Jean-Yves Tourneret (University of Toulouse & IRIT/ENSEEIHT/TéSA, France)

4:35 Blind spatial unmixing of multispectral images: an approach based on two-source sparsity and geometrical properties 3171
Djaouad Benachir (University of Toulouse, France); Yannick Deville (University of Toulouse, France); Shahram Hosseini (University of Toulouse / CNRS / IRAP, France)

4:55 Bayesian fusion of hyperspectral and multispectral images 3176
Qi Wei (University of Toulouse, France); Nicolas Dobigeon (University of Toulouse, France); Jean-Yves Tourneret (University of Toulouse & IRIT/ENSEEIHT/TéSA, France)

5:15 Synthetic Coded Apertures in Compressive Spectral Imaging 3181
Laura Galvis (University of Delaware, USA); Henry Arguello Fuentes (Universidad Industrial de Santander, Colombia); Gonzalo Arce (University of Delaware, USA)

5:35 Error Analysis of Low-Rank Three-Way Tensor Factorization Approach to Blind Source Separation 3186
Ivica Kopriva (Rudjer Boskovic Institute, Zagreb, Croatia); Jean-Philip Royer (Institut des Sciences de l'ingénieur de Toulon et du Var, France); Nadège Thirion (Institut des Sciences de l'ingénieur deToulon et du Var & LSEET, France); Pierre Comon (CNRS UMR5216, France)

5:55 Underdetermined blind separation and tracking of moving sources based on DOA-HMM 3191
Takuya Higuchi (University of Tokyo, Japan); Norihiro Takamune (University of Tokyo, Japan); Tomohiko Nakamura (The University of Tokyo, Japan); Hirokazu Kameoka (The University of Tokyo, Japan)

SLTC-P9: Spoken Language Processing

Room: Poster Area 1
Chair: Florian Metze (Carnegie Mellon University, USA)

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Jeffrey Berry (Marquette, USA); Cassandra North (Marquette University, USA); Michael Johnson (Marquette University, USA)

SLTC-P9.2 Learning a semantic parser from spoken utterances 3201
Judith Gaspers (Bielefeld University, Germany); Philipp Cimiano (Bielefeld University, Germany)

SLTC-P9.3 A DNN-based Acoustic Modeling of Tonal Language and Its Application to Mandarin Pronunciation Training 3206
Wenping Hu (University of Science and Technology of China, P.R. China); Yao Qian (Microsoft Research Asia, P.R. China); Frank Soong (Microsoft Research Asia, USA)

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Elisavet Palogiannidi (Technical University of Crete, Greece); Ioannis Klasinas (Technical University of Crete, Greece); Alexandros Potamianos (Technical University of Crete, Greece); Elias Iosif (Technical University of Crete, Greece)

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Shun Kasahara (The University of Tokyo, Japan); Shun Kitahara (The University of Tokyo, Japan); Nobuaki Minematsu (The University of Tokyo, Japan); Han-Ping Shen (National Cheng Kung University, Taiwan); Takehiko Makino (Chuo University, Japan); Daisuke Saito (The University of Tokyo, Japan); Keikichi Hirose (The University of Tokyo, Japan)

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Layla El Asri (Orange Labs / UMI 2958 (CNRS - GeorgiaTech), France); Hatim Khouzaimi (Orange Labs / Laboratoire d'Informatique d'Avignon-CERI, France); Romain Laroche (Orange labs, Canada); Olivier Pietquin (University Lille 1 - LIFL (UMR 8022 CNRS / Lille 1), France)

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Harish Arsikere (University of California, Los Angeles, USA); Elizabeth Shriberg (International Computer Science Institute/Speech Technology & Research Laboratory, USA); Umut Ozertem (Microsoft, USA)

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Hyunson Seo (Yonsei University, Korea); Mike Seltzer (Microsoft Research, USA); Hong-Goo Kang (Yonsei University, Korea)

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SLTC-P10: Large-Vocabulary Continuous Speech Recognition

Room: Poster Area 2
Chair: Brian Mak (The Hong Kong University of Science and Technology, Hong Kong)

SLTC-P10.1 Gradient-Free Decoding Parameter Optimization on Automatic Speech Recognition 3261
Thach Le Nguyen (Fraunhofer, Germany); Daniel Stein (IAIS Fraunhofer & Fraunhofer, Germany); Michael Stadtschnitzer (Fraunhofer IAIS, Germany)

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Meng Cai (Tsinghua National Laboratory for Information Science and Technology, P.R. China); Yongzhe Shi (Tsinghua University, P.R. China); Jia Liu (Tsinghua National Laboratory for Information Science and Technology, P.R. China)

SLTC-P10.3 Accurate client-server based speech recognition keeping personal data on the client 3271
Munir Georges (Nuance Communications & Saarland University, Germany); Stephan Kanthak (Nuance, Germany); Dietrich Klakow (Saarland University, Germany)

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David Nolden (RWTH Achen University, Germany); Hagen Soltau (IBM, USA); Hermann Ney (RWTH Aachen, Germany)

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Simon Wiesler (RWTH Aachen University, Germany); Alexander Richard (RWTH Aachen University, Germany); Pavel Golik (RWTH Aachen University, Germany); Ralf Schlüter (RWTH Aachen University, Germany); Hermann Ney (RWTH Aachen, Germany)

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SPTM-P8: Compressed Sensing III

Room: Poster Area 3
Chair: Rémi Gribonval (INRIA, France)

SPTM-P9: Detection

Room: Poster Area 4
Chair: Hamid Krim (North Carolina State University, USA)

SPCOM-P5: Transmitter design

Room: Poster Area 5
Chair: Sergiy A. Vorobyov (Aalto University & University of Alberta on leave, Finland)

IVMSP-P7: Sparse coding and Dictionary Learning

Room: Poster Area 6
Chair: Christian Jutten (GIPSA-Lab, France)

Mostafa Sadeghi (Sharif University of Technology, Iran); Massoud Babaie-Zadeh (Sharif University of Technology, Iran); Christian Jutten (GIPSA-Lab, France)

BISP-P3: Computer-aided diagnosis and intervention

Room: Poster Area 7
Chair: Gloria Menegaz (University of Verona, Italy)

BISP-P3.1 Subject Independent Identification of Breath Sounds Components Using Multiple Classifiers 3577
Hisham Alshaer (Toronto Rehabilitation Institute, UHN, Canada); Aditya Pandya (Ryerson University, Canada); T Douglas Bradley (University of Toronto; Toronto Rehabilitation Institute, Canada); Frank Rudzicz (University Health Network- Toronto Rehabilitation Institute, Canada)

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Fatemeh Saki (University of Texas at Dallas, USA); Nasser Kehtarnavaz (University of Texas at Dallas, USA)

BISP-P3.5 Advanced Algorithms for Surgical Gesture Classification 3596
Giovanni Luca Santosuosso (University of Rome Tor Vergata, Italy); Giovanni Saggio (University of Tor Vergata, Rome, Italy); Fabio Sorà (University of Rome Tor Vergata, Italy); Laura Sbernini (University of Rome Tor Vergata, Italy); Nicola Di Lorenzo (University of Rome Tor Vergata, Italy)

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Maya Kriboy (Ben-Gurion University of the Negev, Israel); Ariel Tarasiuk (Soroka University Medical Center, Israel); Yaniv Zigel (Ben Gurion University, Israel)

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Ana Barata (Instituto Superior Técnico, Portugal); Mário A. T. Figueiredo (Instituto Superior Técnico & Instituto de Telecomunicações, Portugal); M. Emre Celebi (Louisiana State University in Shreveport, USA); Jorge S. Marques (Instituto Superior Técnico & Instituto de Sistemas e Robotica, Portugal)

BISP-P3.9 An Investigation of Relationship between Bone Vibration Frequency and its Mass-Volume Ratio 3616
Hajar Razaghi (Sheffield Hallam University, United Kingdom); Reza Saatchi (Sheffield Hallam University, United Kingdom); Thomas Huggins (Shefield University, United Kingdom); Amaka Offiah (University of Sheffield, United Kingdom); Nick Bishop (University of Sheffield, United Kingdom); Derek Burke (Sheffield Children's Hospital NHS Trust, Sheffield, United Kingdom)

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Samantha R. Summerson (Rice University, USA); Charlie Grealish (Carnegie Mellon University, USA); Behnaam Aazhang (Rice University, USA); Caleb Kemere (Rice University, USA)

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BISP-P3.14 High accuracy discrimination of Parkinson's disease participants from healthy controls using smartphones 3641
Siddharth Arora (University of Oxford, United Kingdom); Max Little (MIT, USA)

AASP-P5: Hearing Aids I, Audio Coding

Room: Poster Area 8
Chair: Tao Zhang (Starkey Hearing Technologies, USA)

AASP-P5.1 Closed-loop feedback cancellation utilizing two microphones and transform domain processing 3645
Renato Nakagawa (Curtin University, Australia); Nordholm Sven (Curtin University of Technology, Australia); Felix Albu (Valahia University of Targoviste, Romania); Wei-Yong Yan (Curtin University, Australia)

AASP-P5.2 Design of a High Order Binaural Microphone Array For Hearing Aids Using a Rigid Spherical Model 3650

MLSP-P2: Machine Learning for Audio and Speech

Room: Poster Area 9
Chair: Paris Smaragdis (University of Illinois at Urbana-Champaign, USA)

Dong-Yan Huang (Institute for Infocomm Research, Singapore); Minghui Dong (Institute for Infocomm Research, Singapore); Haizhou Li (Institute for Infocomm Research, Singapore)

MLSP-P2.11 Discriminative Non-Negative Matrix Factorization for Single-Channel Speech Separation 3749
Zi Wang (Tsinghua University, P.R. China); Fei Sha (USC, USA)

MLSP-P2.12 Block Sparse Excitation Based All-Pole Modeling of Speech 3754
Ritwik Giri (University of California, San Diego, USA); Bhaskar Rao (University of California, San Diego, USA)

IFS-P2: Biometrics and Content Fingerprinting

Room: Poster Area 10
Chair: Patrizio Campisi (University of ROMA TRE, Italy)

IFS-P2.1 Iris Template Protection Using a Digital Modulation Paradigm 3759
Emanuele Maiorana (University of ROMA TRE, Italy); Patrizio Campisi (University of ROMA TRE, Italy); Alessandro Neri (University of ROMA TRE, Italy)

IFS-P2.2 Heterogeneous Iris Recognition using Heterogeneous Eigeniris and Sparse Representation 3764
Bo-Ren Zheng (Feng Chia University, Taiwan); Dai-Yan Ji (Advanced Analog Technology, Inc., Taiwan); Yung-hui Li (National Central University, Taiwan)

IFS-P2.3 Verification based ECG biometrics with cardiac irregular conditions using heartbeat level and segment level information fusion 3769
Ming Li (Sun Yat-sen University, P.R. China); Xin Li (Carnegie Mellon University, USA)

IFS-P2.4 On Establishing Evaluation Standards for ECG Biometrics 3774
Shahrzad Pouryayevali (University of Toronto, Canada); Saeid Wahabi (University of Toronto, Canada); Siddarth Hari (University of Toronto, Canada); Dimitrios Hatzinakos (University of Toronto, Canada)

IFS-P2.5 Performance of i-Vector Speaker Verification and the Detection of Synthetic Speech 3779
Richard McClanahan (Sandia National Laboratories, USA); Bryan Stewart (New Mexico State University, USA); Phillip L De Leon (New Mexico State University, USA)

IFS-P2.6 Human Acoustic Fingerprints: A Novel Biometric Modality for Mobile Security 3784
Yuxi Liu (University of Toronto, Canada); Dimitrios Hatzinakos (University of Toronto, Canada)

IFS-P2.7 An HMM-based Behavior Modeling Approach for Continuous Mobile Authentication 3789
Aditi Roy (New York University, Polytechnic School of Engineering, USA); Tzipora Halevi (Polytechnic Institute of New York University, USA); Nasir Memon (Polytech University, USA)

IFS-P2.8 Robust Perceptual Color Image Hashing Using Quaternion Singular Value Decomposition 3794
Lahouari Ghouti (King Fahd University of Petroleum & Minerals, Saudi Arabia)

IFS-P2.9 Performance analysis of bag-of-features based content identification systems 3799
Sviatoslav Voloshynovskiy (University of Geneva, Switzerland); Maurits Diephuis (University of Geneva, Switzerland); Taras Holotyak (University of Geneva, Switzerland)

IFS-P2.10 Fast and Accurate Nearest Neighbor Search in the Manifolds of Symmetric Positive Definite Matrices 3804
Ligang Zheng (Guangzhou University, P.R. China); Guoping Qiu (University of Nottingham, United Kingdom); Jiwu Huang (Shenzhen University, P.R. China)

IFS-P2.11 Fingerprint Information Maximization for Content Identification 3809
Rohit Naini (University of Illinois, USA); Pierre Moulin (University of Illinois at Urbana-Champaign, USA)

IFS-P2.12 Efficient two stage decoding scheme to achieve content identification capacity 3814
Farzad Farhadzadeh (University of Geneva, Switzerland); Ke Sun (University of Geneva, Switzerland); Sohrab Ferdowsi (University of Geneva, Switzerland)

Thursday, May 8

8:30 AM - 10:30 AM

SLTC-L7: Parametric Speech Synthesis

Room: Cavaniglia
Chairs: Alan Black (CMU, USA), Zhen-Hua Ling (University of Science and Technology of China, P.R. China)

8:30 Decision Tree Usage for Incremental Parametric Speech Synthesis 3819
Timo Baumann (Universität Hamburg, Germany)

8:50 Spectral Modeling Using Neural Autoregressive Distribution Estimators for Statistical Parametric Speech Synthesis 3824
Xiang Yin (University of Science and Technology of China, P.R. China); Zhen-Hua Ling (University of Science and Technology of China, P.R. China); Li-Rong Dai (University of Science and Technology of China, P.R. China)

9:10 On the Training Aspects of Deep Neural Network (DNN) for Parametric TTS Synthesis 3829
Yao Qian (Microsoft Research Asia, P.R. China); Yuchen Fan (Microsoft Research Asia, P.R. China); Wenping Hu (University of Science and Technology of China, P.R. China); Frank Soong (Microsoft Research Asia, USA)

9:30 Parametric Speech Synthesis Based on Gaussian Process Regression Using Global Variance and Hyperparameter Optimization 3834
Tomoki Koriyama (Tokyo Institute of Technology, Japan); Takashi Nose (Tohoku University, Japan); Takao Kobayashi (Tokyo Institute of Technology, Japan)

9:50 Complex cepstrum factorization for statistical parametric synthesis 3839
Ranniery Maia (Toshiba Cambridge Research Lab, United Kingdom); Yannis Stylianou (University of Crete, Greece)

10:10 Deep Mixture Density Networks for Acoustic Modeling in Statistical Parametric Speech Synthesis 3844
Heiga Zen (Google, United Kingdom); Andrew Senior (Google Inc., USA)

SPTM-L5: Signal Processing over Graphs II

Room: Basilica
Chairs: Alfred Hero III (University of Michigan, USA), Ali H. Sayed (University of California, Los Angeles, USA)
8:30 On lq Estimation of Sparse Inverse Covariance 3849
Goran Marjanovic (University of Michigan, USA); Alfred Hero III (University of Michigan, USA)
8:50 Anomalous Cluster Detection 3854
Jing Qian (Boston University, USA); Venkatesh Saligrama (Boston University, USA); Yuting Chen (Boston University, USA)
9:10 A Stable Betweenness Centrality Measure in Networks 3859
Santiago Segarra (University of Pennsylvania, USA); Alejandro Ribeiro (University of Pennsylvania, USA)
9:30 Towards a sampling theorem for signals on arbitrary graphs 3864
Aamir Anis (University of Southern California, USA); Akshay Gadde (University of Southern California, USA); Antonio Ortega (USC, USA)
9:50 On the Convergence Rate of the Bi-Alternating Direction Method of Multipliers 3869
Guoqiang Zhang (Delft University of Technology, The Netherlands); Richard Heusdens (Delft University of Technology, The Netherlands); W. Bastiaan Kleijn (Victoria University of Wellington, New Zealand)
10:10 Online Dictionary Learning over Distributed Models 3874
Jianshu Chen (University of California, Los Angeles, USA); Zaid J. Towfic (University of California, Los Angeles, USA); Ali H. Sayed (University of California, Los Angeles, USA)

DISPS-L1: Algorithm and Architecture Co-Optimization

Room: Polveriera
Chairs: Magdy Bayoumi (University of Louisiana, USA), Warren Gross (McGill University, Canada)
8:30 A 3.8 Gb/s Large-scale MIMO Detector for 3GPP LTE-Advanced 3879
Bei Yin (Rice University, USA); Michael Wu (Rice University, USA); Guohui Wang (Rice University, USA); Chris Dick (Xilinx, USA); Joseph R. Cavallaro (Rice University, USA); Christoph Studer (Cornell University, USA)
8:50 Error-Adaptive Classifier Boosting (EACB): Exploiting Data-driven Training for Highly Fault-tolerant Hardware 3884
Zhuo Wang (Princeton University, USA); Robert Schapire (Princeton University, USA); Naveen Verma (Massachusetts Institute of Technology, USA)
9:10 Design and Implementation of a Low Power Spike Detection Processor for 128-Channel Spike Sorting Microsystem 3889
Tsung-Chuan Ma (National Taiwan University, Taiwan); Tung-Chuan Chen (National Taiwan University, Taiwan); Liang-Gee Chen (DSP/IC Design Lab., National Taiwan University, Taiwan)
9:30 Towards Approaching near-Optimal MIMO detection performance on a C-programmable baseband processor 3893
Ubaid Ahmad (Katholieke University of Leuven & IMEC, Belgium); Min Li (IMEC, Belgium); Amir Amin (IMEC, Belgium); Meng Li (IMEC, Belgium); Liesbet Van der Perre (IMEC, Belgium); Rudy Lauwereins (IMEC, Leuven, Belgium); Sofie Pollin (KU Leuven, USA)
9:50 FFTs with Near-Optimal Memory Access Through Block Data Layouts 3898
Berkin Akin (Carnegie Mellon University, USA); Franz Franchetti (Carnegie Mellon University, USA); James C. Hoe (Carnegie Mellon University, USA)
10:10 LLR-Based Successive Cancellation List Decoding of Polar Codes 3903
Alexios Balatsoukas-Stimming (EPFL, Switzerland); Mani Bastani Parizi (EPFL, Switzerland); Andreas Burg (EPFL, Switzerland)

SS7: Joint Optimization of RF devices and Resource Allocation in Wireless Networks

Room: Scherma
Chairs: Erik G. Larsson (Linköping University, Sweden), Jarmo Takala (Tampere University of Technology, Finland)
8:30 Reduced-Complexity Power Amplifier Linearization for Carrier Aggregation Mobile Transceivers 3908
Mahmoud Abdelaziz (Tampere University of Technology, Finland); Lauri Anttila (Tampere University of Technology, Finland); Abbas Mohammadi (Amirkabir University of Technology, Iran); Fadhel Ghannouchi (University of Calgary, Canada); Mikko Valkama (Tampere University of Technology, Finland)
8:50 Multiuser Frequency Allocation with Wideband Power Amplifier Models 3913
Xiaojia Lu (University of Oulu, Finland); Antti Tölli (University of Oulu, Finland); Lauri Anttila (Tampere University of Technology, Finland); Markku Juntti (University of Oulu, Finland); Mikko Valkama (Tampere University of Technology, Finland)
9:10 Digital predistortion of concurrent multiband communication systems 3918
Thomas Eriksson (Chalmers University of Technology, Sweden); Christian Fager (Chalmers University of Technology, Sweden)
9:30 Iterative Blind Estimation of Nonlinear Channels 3923
Jan Dohl (Technische Universität Dresden, Germany); Gerhard Fettweis (Technische Universität Dresden, Germany)
9:50 Cross Layer Energy-Efficiency Optimization for Cognitive Radio Transceivers 3928
Christian Senning (EPFL, Switzerland); Mikel Mendikute (Mondragon University, Spain); Andreas Burg (EPFL, Switzerland)
10:10 Efficient Architecture Mapping of FFT/IFFT for Cognitive Radio Networks 3933
Guohui Wang (Rice University, USA); Bei Yin (Rice University, USA); Inkeun Cho (University of Maryland, USA); Joseph R. Cavallaro (Rice University,

USA); Shuvra Bhattacharyya (University of Maryland, USA); Jarmo Takala (Tampere University of Technology, Finland)

SAM-L3: Sparsity Structures

Room: Teatrino
Chairs: Yonina C. Eldar (Technion-Israel Institute of Technology, Israel), Geert Leus (Delft University of Technology, The Netherlands)
8:30 Joint Sparsity Recovery for Spectral Compressed Sensing 3938
Yuejie Chi (Ohio State University, USA)
8:50 Sparse Reconstruction Of Equivalence Classes Of Moving Targets Using Single-Channel Synthetic Aperture Radar 3943
Jake Gunther (Utah State University, USA); Josh Hunsaker (Utah State University, USA); Hyrum Anderson (Sandia National Laboratories, USA); Todd Moon (Utah State University, USA)
9:10 Sparsity-Aware Field Estimation via Ordinary Kriging 3948
Sijia Liu (Syracuse University, USA); Engin Masazade (Yeditepe University, Turkey); Makan Fardad (Syracuse University, USA); Pramod Varshney (Syracuse University, USA)
9:30 A block-sparse MUSIC algorithm for the localization and the identification of directive sources 3953
Gilles Chardon (Austrian Academy of Sciences, Austria)
9:50 Joint DOA and Multi-pitch estimation using Block Sparsity 3958
Ted Kronvall (Lund University, Sweden); Stefan I Adalbjörnsson (Lund University, Sweden); Andreas Jakobsson (Lund University, Sweden)
10:10 Tensor-Based Algorithms for Learning Multidimensional Separable Dictionaries 3963
Florian Roemer (Ilmenau University of Technology, Germany); Giovanni Del Galdo (Fraunhofer Institute for Integrated Circuits IIS, Germany); Martin Haardt (Ilmenau University of Technology, Germany)

IFS-L1: Secret Communications, Fingerprinting, and Security

Room: Volta
Chairs: Oscar C. Au (HKUST, Hong Kong), Yao-Win Peter Hong (National Tsing Hua University, Taiwan)
8:30 Artificial-Noise-Aided Secure Multi-Antenna Transmission in Slow Fading Channels with Limited Feedback 3968
Xi Zhang (Hong Kong University of Science and Technology, Hong Kong); Xiangyun Zhou (The Australian National University, Australia); Matthew R McKay (Hong Kong University of Science and Technology, Hong Kong); Robert Heath (The University of Texas at Austin, USA)
8:50 Strong Secrecy and Decoding Performance Analysis for Robust Broadcasting Under Channel Uncertainty 3973
Rafael F. Schaefer (Princeton University, USA); Holger Boche (Technical University Munich, Germany)
9:10 On the Performance of Full-Duplex Relaying under PHY Security Constraints 3978
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Kou Tanaka (Graduate School of Information Science, Nara Institute of Science and Technology, Japan); Tomoki Toda (NAIST, Japan); Graham Neubig (Graduate School of Information Science, Nara Institute of Science and Technology, Japan); Sakriani Sakti (NAIST, Japan); Satoshi Nakamura (Nara Institute of Science and Technology, Japan)

MLSP-P3: Learning theory I

Room: Poster Area 9
Chair: Cédric Richard (Université de Nice Sophia-Antipolis, France)

MMSP-P3: Multimedia and Multimodal Signal Processing II

Room: Poster Area 10
Chair: Stefano Tubaro (Politecnico di Milano, Italy)

MMSP-P3.8 Late Fusion and Calibration for Multimedia Event Detection Using Few Examples 4598
Julien van Hout (SRI International, USA); Eric Yeh (SRI International, USA); Dennis Koelma (University of Amsterdam, The Netherlands); Cees GM Snoek (University of Amsterdam, The Netherlands); Chen Sun (University of Southern California, USA); Ramakant Nevatia (USC, USA); Julie Wong (SRI International, USA); Gregory Myers (SRI International, USA)
MMSP-P3.9 Temporal Synchronization of Multiple Audio Signals 4603
Julius Kammerl (Google Inc., USA); Neil Birkbeck (Google Inc., USA); Sasi Inguva (Google Inc., USA); Damien Kelly (Google Inc., USA); Andy Crawford (Google Inc., USA); Hugh Denman (Google Inc., USA); Anil Kokaram (Google Inc., USA); Caroline Pantofaru (Google Inc., USA)
MMSP-P3.10 Human Action Recognition using Associated Depth and Skeleton Information 4608
Nick C. Tang (Academia Sinica, Taiwan); Yen-Yu Lin (Academia Sinica, Taiwan); Ju-Hsuan Hua (Academia Sinica, Taiwan); Ming-Fang Weng (Institute for Information Industry, Taiwan); Mark Liao (Academia Sinica, Taiwan)
MMSP-P3.11 Exploring the use of ENF for multimedia synchronization 4613
Hui Su (University of Maryland, USA); Adi Hajj-Ahmad (University of Maryland, College Park, USA); M Wu (University of Maryland, USA); Douglas Oard (University of Maryland, USA)
MMSP-P3.12 Continuous Visual Speech Recognition for Multimodal Fusion 4618
Eric Benhaim (Télécom ParisTech, France); Hichem Sahbi (Telecom ParisTech, France); Guillaume Vitte (Parrot SA, France)

10:30 AM - 11:00 AM

Coffee break

11:00 AM - 1:00 PM

SLTC-L8: Speech Intelligibility Enhancement

Room: Cavaniglia
Chairs: Rainer Martin (Ruhr-University Bochum, Germany), Yannis Stylianou (University of Crete, Greece)
11:00 Deep Recurrent De-Noising Auto-Encoder and blind de-reverberation for reverberated speech recognition 4623
Felix J Weninger (Mitsubishi Electric Research Laboratories, Germany); Shinji Watanabe (Mitsubishi Electric Research Laboratories, USA); Yuuki Tachioka (Mitsubishi Electric Corporation, Japan); Björn W Schuller (Imperial College London & Technische Universität München, Germany)
11:20 Learning Spectral Mapping for Speech Dereverberation 4628
Kun Han (The Ohio State University, USA); Yuxuan Wang (The Ohio State University, USA); DeLiang Wang (Ohio State University, USA)
11:40 Restoration of Instantaneous Amplitude and Phase using Kalman filter for Speech Enhancement 4633
Naushin Nower (JAIST, Japan); Yang Liu (JAIST, Japan); Unoki Masashi (Japan Advanced Institute of Science and Technology, Japan)
12:00 On the use of Early-to-Late Reverberation Ratio for ASR in reverberant environments 4638
Alessio Brutti (Fondazione Bruno Kessler, Italy); Marco Matassoni (Fondazione Bruno Kessler, Italy)
12:20 Comparison of post-processing methods for intelligibility enhancement of narrowband speech in a mobile phone framework 4643
Emma Jokinen (Aalto University, Finland); Marko Takanen (Aalto University, Finland); Paavo Alku (Aalto University, Finland)
12:40 Simple and artefact-free spectral modifications for enhancing the intelligibility of casual speech 4648
Maria Koutsogiannaki (University of Crete & FORTH, Greece); Yannis Stylianou (University of Crete, Greece)

SPTM-L6: Performance Analysis and Bounds

Room: Basilica
Chairs: Kutluyıl Doğançay (University of South Australia, Australia), K. v. s. Hari (Indian Institute of Science, India)
11:00 Performance Bounds for Joint Estimation of Ionospheric and Target Parameters in MIMO-OTH Radar 4653
Mao Li (University of Electronic Science and Technology of China, P.R. China); Qian He (University of Electronic Science and Technology of China, P.R. China); Zi-Shu He (University of Electronics Science and Technology of China, P.R. China); Rick Blum (Lehigh University, USA)
11:20 Waveform Selection for Range and Doppler Estimation via Barankin Bound Signal-to-Noise Ratio Threshold 4658
John Kota (Arizona State University, USA); Narayan Kovvali (Arizona State University, USA); Daniel W. Bliss (Arizona State University, USA); Antonia Papandreou-Suppappola (Arizona State University, USA)
11:40 A Ziv-Zakai type bound for hybrid parameter estimation 4663
Chengfang Ren (Universite Paris-Sud/LSS, France); Jérôme Galy (LIRMM Montpellier, France); Eric Chaumette (ONERA, France); Pascal Larzabal (ENS-Cachan, PARIS, France); Alexandre Renaux (Universite Paris 11, France)
12:00 Fundamental Localization Accuracy in Narrowband Array-based Systems 4668
Yanjun Han (Tsinghua University, P.R. China); Huadong Meng (Tsinghua University, P.R. China); Yuan Shen (Massachusetts Institute of Technology, USA); Yimin Liu (Tsinghua University, P.R. China)
12:20 Ziv-Zakai Bound for Time Delay Estimation of Unknown Deterministic Signals 4673
Nicolò Decarli (University of Bologna, Italy); Davide Dardari (University of Bologna, Italy)
12:40 Approximate Least Squares 4678

Michael Lunglmayr (University of Klagenfurt, Austria); Christoph Unterrieder (University of Klagenfurt, Austria); Mario Huemer (Johannes Kepler University Linz, Austria)

BISP-L2: EEG data processing I

Room: Polveriera
Chair: Ahmed Tewfik (University of Texas, Austin, USA)
11:00 Neural Decoding Using a Nonlinear Generative Model for Brain-Computer Interface 4683
Henrique Dantas (Universidade Federal de Pernambuco, USA); Spencer Kellis (California Institute of Technology, USA); V. John Mathews (University of Utah, USA); Bradley Greger (Arizona State University, USA)
11:20 Subspace Denoising of EEG Artefacts Via Multivariate EMD 4688
David Looney (Imperial College London, United Kingdom); Valentin Goverdovsky (Imperial College London, United Kingdom); Preben Kidmose (Aarhus University, Denmark); Danilo Mandic (Imperial College, London, United Kingdom)
11:40 Bayesian detection of single-trial event-related potentials 4693
Maria Rosario Mestre (University of Cambridge, United Kingdom); Simon Godsill (University of Cambridge, United Kingdom); William Fitzgerald (University of Cambridge, United Kingdom)
12:00 Assessment of new spectral features for EEG-based emotion recognition 4698
Anne-Claire Conneau (Institut Mines-Telecom/Telecom ParisTech & CNRS-LTCI, France); Slim Essid (Telecom ParisTech & CNRS/LTCI, France)
12:20 Synchrony Analysis of Paroxysmal Gamma Waves in Meditation EEG 4703
Jin Jing (Nanyang Technological University & School of Electrical and Electronic Engineering, Singapore); Justin Dauwels (Nanyang Technological University, Singapore); Francois-Benois Vialatte (Laboratoire SIGMA, France); Andrzej S Cichocki (RIKEN BSI, Laboratory for Advanced Brain Signal Processing, Japan)
12:40 Reduced-rank neural activity index for EEG/MEG multi-source localization 4708
Tomasz Piotrowski (Nicolaus Copernicus University, Poland); Dania Gutierrez (Center for Research and Advanced Studies & Monterrey's Unit, Mexico); Isao Yamada (Tokyo Institute of Technology, Japan); Jarosław Żygierewicz (University of Warsaw, Poland)

AASP-L4: Sound Field Analysis and Reproduction

Room: Scherma
Chairs: Jean-Marc Jot (DTS, Inc., USA), Boaz Rafaely (Ben-Gurion University of the Negev, Israel)
11:00 Room Statistics and Direct-to-reverberant Ratio Estimation from Dual-channel Signals 4713
Eleftheria Georganti (University Hospital of Zurich, Switzerland); John Mourjopoulos (University of Patras, Greece); Steven van de Par (University of Oldenburg, Germany)
11:20 Non-intrusive estimation of the level of reverberation in speech 4718
Pablo Peso Parada (Nuance Communications, United Kingdom); Dushyant Sharma (Nuance Communications, United Kingdom); Patrick A Naylor (Imperial College London, United Kingdom)
11:40 A Method for Converting Between Cylindrical and Spherical Harmonic Representations of Sound Fields 4723
Mark R. P. Thomas (Microsoft Research, USA); Jens Ahrens (University of Technology Berlin, Germany); Ivan J. Tashev (Microsoft Research, USA)
12:00 Multizone Soundfield Reproduction In Reverberant Rooms Using Compressed Sensing Techniques 4728
Wenyu Jin (Victoria University of Wellington, New Zealand); W. Bastiaan Kleijn (Victoria University of Wellington, New Zealand)
12:20 Generation of multiple sound zones by spatial filtering in wavenumber domain using a linear array of loudspeakers 4733
Takuma Okamoto (National Institute of Information and Communications Technology, Japan)
12:40 PDE-based Interpolation Method for Optically Visualized Sound Field 4738
Kohei Yatabe (Waseda University, Japan); Yasuhiro Oikawa (Waseda University, Japan)

SPCOM-L4: Energy harvesting and management

Room: Teatrino
Chair: Rui Zhang (National University of Singapore, Singapore)
11:00 Energy Consumption in multi-user MIMO systems: Impact of user mobility 4743
Luca Sanguinetti (University of Pisa, Italy); Aris Moustakas (University of Athens, Greece); Emil Björnson (Supélec & KTH, Sweden); Mérouane Debbah (Supelec, France)
11:20 Robust Transmit Designs for an Energy Harvesting Multicast System 4748
Xiaoxiao Wu (The Chinese University of Hong Kong, Hong Kong); Qiang Li (University of Electronic Science and Technology of China, P.R. China); Wing-Kin Ma (The Chinese University of Hong Kong, Hong Kong); Anthony Man-Cho So (The Chinese University of Hong Kong, Hong Kong)
11:40 Joint Transceiver design for MISO SWIPT interference channel 4753
Qingjiang Shi (Zhejiang Sci-Tech University, P.R. China); Cheng Peng (Zhejiang Sci-Tech University, P.R. China); Weiqiang Xu (Zhejiang Sci-Tech University, P.R. China); Yongchao Wang (Xidian University, P.R. China)
12:00 Energy-constrained Throughput Maximization for Point-to-Point Communications 4758
Qing Bai (Technische Universität München, Germany); Jingrui Li (Technische Universität München, Germany); Josef A. Nossek (TU Munich, Germany)
12:20 Energy Harvesting for Relay-Assisted Communications 4763
Arin Minasian (University of Toronto, Canada); Raviraj Adve (University of Toronto, Canada); Shahram ShahbazPanahi (University of Ontario Institute of Technology, Canada)
12:40 Interference Power Recycling in Two-Scale Ad Hoc Wireless Networks 4768

Javier Villares (Technical University of Catalonia, Spain); Josep Sala (Technical University of Catalonia, Spain); Francesc Rey (Universitat Politècnica de Catalunya, Spain)

SS8: Social Nets: Learning and Optimization

Room: Volta
Chairs: Georgios B. Giannakis (University of Minnesota, USA), Gonzalo Mateos (University of Minnesota, USA)
11:00 State-Dependent Opinion Dynamics 4773
Daron Acemoglu (Massachusetts Institute of Technology, USA); Mohamed Mostagir (University of Michigan, USA); Asuman Ozdaglar (Massashusetts Institute of Technology, USA)
11:20 A Proximal Gradient Algorithm for Tracking Cascades Over Networks 4778
Brian Baingana (University of Minnesota, USA); Gonzalo Mateos (University of Minnesota, USA); Georgios B. Giannakis (University of Minnesota, USA)
11:40 Information aggregation in a beauty contest game 4783
Ceyhun Eksin (University of Pennsylvania, USA); Pooya Molavi (University of Pennsylvania, USA); Alejandro Ribeiro (University of Pennsylvania, USA); Ali Jadbabaie (University of Pennsylvania, USA)
12:00 Online ratings: convergence towards a positive perspective? 4788
Yaonan Zhang (Boston University, USA); Theodoros Lappas (Boston University, USA); Mark Crovella (Boston University, USA); Eric Kolaczyk (Boston University, USA)
12:20 Towards a Spectral Characterization of Signals Supported on Small-World Networks 4793
Michael Rabbat (McGill University, Canada); Vincent Gripon (Telecom Bretagne, France)
12:40 Unsupervised Social Media Events Clustering using User-centric Parallel SPLIT-N-MERGE Algorithms 4798
Minh-Son Dao (University of Information Technology, Vietnam, Japan); Anh Duc Duong (University of Information Technology-VNUHCM, Vietnam); Francesco De Natale G.B. De Natale (University of Trento, Italy)

SLTC-P13: Paralinguistic Speech Recognition

Room: Poster Area 1
Chair: Nick Campbell (Trinity College Dublin, Canada)
SLTC-P13.1 Emotions Are A Personal Thing: Towards Speaker-Adaptive Emotion Recognition 4803
Maxim Sidorov (Ulm University, Germany); Stefan Ultes (Ulm University, Germany); Alexander Schmitt (University of Ulm & Dialogue Systems Group, Germany)
SLTC-P13.2 A Feature Selection and Feature Fusion Combination Method for Speaker-Independent Speech Emotion Recognition 4808
Yun Jin (Southeast University, P.R. China); Peng Song (Southeast University, P.R. China); Wenming Zheng (Southeast University Nanjing, P.R. China); Li Zhao (Southeast University, P.R. China)
SLTC-P13.3 Automatic detection of expressed emotion in Parkinson's disease 4813
Shunan Zhao (University of Toronto, Canada); Frank Rudzicz (University of Toronto, Canada); Leonardo Carvalho (University of Toronto, Canada); Cesar Márquez-Chin (Rehabilitation Engineering Laboratory, University of Toronto, Canada); Steven Livingstone (Ryerson University, Canada)
SLTC-P13.4 Introducing Shared-Hidden-Layer Autoencoders for Transfer Learning and their Application in Acoustic Emotion Recognition 4818
Jun Deng (Technische Universität München, Germany); Rui Xia (The University of Texas at Dallas, USA); Zixing Zhang (Technische Universität München, Germany); Yang Liu (UT Dallas, USA); Björn W Schuller (Imperial College London & Technische Universität München, Germany)
SLTC-P13.5 Social Signal Classification Using Deep BLSTM Recurrent Neural Networks 4823
Raymond Brueckner (Technische Universität München & Nuance Communications Deutschland GmbH, Germany); Björn W Schuller (Imperial College London & Technische Universität München, Germany)
SLTC-P13.6 Visual-Only Discrimination between Native and Non-Native Speech 4828
Christos Georgakis (Imperial College London, United Kingdom); Stavros Petridis (Imperial College London, United Kingdom); Maja Pantic (Imperial College London, United Kingdom)
SLTC-P13.7 Simplified and Supervised i-vector Modeling for Speaker Age Regression 4833
Prashanth Gurunath Shivakumar (University of Southern California & Signal Analysis and Interpretation Lab, USA); Ming Li (Sun Yat-sen University, P.R. China); Vedant Dhandhania (University of Southern California, USA); Shrikanth Narayanan (University of Southern California, USA)
SLTC-P13.8 Affective language model adaptation via corpus selection 4838
Nikolaos Malandrakis (University of Southern California, USA); Alexandros Potamianos (Technical University of Crete, Greece); Kean J Hsu (University of Southern California, USA); Kalina N Babeva (University of Southern California, USA); Michelle C Feng (University of Southern California, USA); Gerald C Davison (University of Southern California, USA); Shrikanth Narayanan (University of Southern California, USA)
SLTC-P13.9 Inferring social relationships in a phone call from a single party's speech 4843
Sree Harsha Yella (Idiap Research Institute, Switzerland); Xavier Anguera (Telefonica Research, Spain); Jordi Luque (Telefonica I+D, Spain)
SLTC-P13.10 Automatic Characterization of Speaking Styles in Educational Videos 4848
Soroosh Mariooryad (The University of Texas at Dallas, USA); Anitha Kannan (Microsoft Research, USA); Dilek Hakkani-Tur (Microsoft Research, USA); Elizabeth Shriberg (International Computer Science Institute/Speech Technology & Research Laboratory, USA)
SLTC-P13.11 Automatic Analysis of Speech Quality for Aphasia Treatment 4853
Duc Le (University of Michigan, USA); Keli Licata (University of Michigan, USA); Elizabeth Mercado (University of Michigan, USA); Carol Persad

SLTC-P14: Language Models

SPTM-P12: Signal Sampling, Sensing and Reconstruction II

SPTM-P12.6 Sparsity Fine Tuning in Wavelet Domain with Application to Compressive Image Reconstruction 4948
Weisheng Dong (Xidian University, P.R. China); Xiaolin Wu (McMaster University, Canada); Guangming Shi (Xidian University, P.R. China)
SPTM-P12.7 Sparse Signal Recovery under Poisson Statistics for Online Marketing Applications 4953
Delaram Motamedvaziri (Boston University, USA); Mohammad Hossein Rohban (Boston University, USA); Venkatesh Saligrama (Boston University, USA)
SPTM-P12.8 Iterative Soft-Thresholding for Time-Varying Signal Recovery 4958
Aurele Balavoine (Georgia Institute of Technology, USA); Christopher Rozell (Georgia Tech, USA); Justin K Romberg (Georgia Tech, USA)
SPTM-P12.9 Algebraic Phase Unwrapping over Collection of Triangles Based on Two-dimensional Spline Smoothing 4963
Daichi Kitahara (Tokyo Institute of Technology, Japan); Isao Yamada (Tokyo Institute of Technology, Japan)
SPTM-P12.10 Information-Maximizing Prefilters for Quantization 4968
Bernhard C. Geiger (Graz University of Technology, Austria); Gernot Kubin (Graz University of Technology, Austria)
SPTM-P12.11 Matrix Recovery From Quantized and Corrupted Measurements 4973
Andrew Lan (Rice University, USA); Christoph Studer (Cornell University, USA); Richard Baraniuk (Rice University, USA)
SPTM-P12.12 Selective analytic signal construction from a non-uniformly sampled bandpass signal 4978
Jean-Adrien Vernhes (INP-ENSEEIHT/IRIT/TéSA, France); Marie Chabert (Irit/Enseeiht, France); Bernard Lacaze (TESA Lab, France); Guy Lesthievent (CNES, France); Roland Baudin (Thales Alenia Space, France)
SPTM-P12.13 Denoising using multi-stage randomized Orthogonal Matching Pursuit 4983
Stefanos Koskinas (McGill University, Canada); Ioannis Psaromiligkos (McGill University, Canada)

DISPS-P1: Design Methods and Optimization for DSP

Room: Poster Area 4
Chair: Marco Mattavelli (EPFL, Switzerland)
DISPS-P1.1 Efficient Software Synthesis of Dynamic Dataflow Programs 4988
Hervé Yviquel (INSA of Rennes, France); Alexandre Sanchez (INSA of Rennes, France); Pekka Jääskeläinen (Tampere University of Technology, Finland); Jarmo Takala (Tampere University of Technology, Finland); Mickael Raulet (IETR-INSA Rennes, France); Emmanuel Casseau (IRISA Laboratory, France)
DISPS-P1.2 Cooperative CPU+GPU Deblocking Filter Parallelization for High Performance HEVC Video Codecs 4993
Diego F. de Souza (INESC-ID, IST, University of Lisbon & INESC-ID, Portugal); Nuno Roma (INESC-ID, IST, University of Lisbon, Portugal); Leonel A Sousa (INESC-ID / IST, Technical University of Lisbon, Portugal)
DISPS-P1.3 Efficient duty-cycle mismatch compensation in digital transmitter 4998
Chunshu Li (IMEC, Belgium); Min Li (IMEC, Belgium); Mark Ingels (Imec, Belgium); Marian Verhelst (KULeuven, Belgium); Xiaoqiang Zhang (IMEC, Belgium); Joris Van Driessche (IMEC, Belgium); Andre Bourdoux (IMEC, Belgium); Liesbet Van der Perre (IMEC, Belgium); Sofie Pollin (KU Leuven, USA)
DISPS-P1.4 A Methodology for Optimizing Buffer Sizes of Dynamic Dataflow FPGAs Implementations 5003
Ab Al-Hadi Ab Rahman (Universiti Teknologi Malaysia, Malaysia); Simone Casale Brunet (EPFL & SCI STI MM, Switzerland); Claudio Alberti (EPFL, Switzerland); Marco Mattavelli (EPFL, Switzerland)
DISPS-P1.5 Design of Sparse-Signal Processing in Radar Systems 5008
Radmila Pribic (Thales Nederland Delft, The Netherlands); Ioannis Kyriakides (University of Nicosia, Cyprus)
DISPS-P1.6 3-D Stacked Memory System Architecture Exploration by ESL Virtual Platform and Reconfigurable Stacking Memory Architecture in 3D-DSP SoC System 5012
Hsien-Chung Hsieh (Industrial Technology Research Institute, Taiwan); Sum Yi-Fa (Industrial Technology Research Institute, Taiwan); Jen-Chieh Yeh (Industrial Technology Research Institute, Taiwan); Po-Han Huang (Industrial Technology Research Institute, Taiwan)
DISPS-P1.7 Computing Resource Minimization with Content-aware Workload Estimation in Cloud-based Surveillance Systems 5017
Peng-Jung Wu (Industrial Technology Research Institute, Taiwan); Yung-Cheng Kao (Industrial Technology Research Institute, Taiwan)
DISPS-P1.8 Low Complexity Subband Analysis using Quadrature Mirror Filters 5021
Aditya Chopra (National Instruments, USA); William Reid (National Instruments, USA); Brian L Evans (The University of Texas at Austin, USA)
DISPS-P1.9 Leakage-Aware Scratch-Pad Memory Banking for Embedded Multidimensional Signal Processing 5026
Florin Balasa (American University in Cairo, Egypt); Noha Abuaesh (American University in Cairo, Egypt); Cristian Gingu (Fermilab, USA); Doru Nasui (American International Radio, Inc., USA)
DISPS-P1.10 Fault Tolerance Analysis of Digital Feed-Forward Deep Neural Networks 5031
Minjae Lee (Seoul National University, Korea); Kyuyeon Hwang (Seoul National University, Korea); Wonyong Sung (Seoul National University, Korea)
DISPS-P1.11 Embedding Polynomial Time Memory Mapping and Routing Algorithms on-chip to Design Configurable Decoder Architectures 5036
Saeed ur Rehman (Université de Bretagne-Sud & Lab-STICC, France); Awais Sani (Ouest-Valorisation, France); Cyrille Chavet (Université de Bretagne Sud & Lab-STICC, France); Philippe Coussy (Uniuversite de Bretagne-Sud / Lab-STICC, France)
DISPS-P1.12 Robust Decision Feedback Equalizer Scheme by Using Sphere-Decoding Detector 5041
Hung-Yi Cheng (National Taiwan University, Taiwan); Chun-Yuan Chu (National Taiwan University, Taiwan); Yen-Liang Chen (NTU, Taiwan); An-Yeu Wu (National Taiwan University, Taiwan)

SPCOM-P7: Sensing and learning networks

Room: Poster Area 5
Chair: Milica Stojanovic (Northeastern University, USA)
SPCOM-P7.1 Single Bit and Reduced Dimension Diffusion Strategies Over Distributed Networks N/A
Muhammed Sayin (Bilkent University, Turkey); Suleyman Serdar Kozat (Bilkent University, Turkey)
SPCOM-P7.2 Sigma Point Belief Propagation N/A
Florian Meyer (Vienna University of Technology, Austria); Ondrej Hlinka (Vienna University of Technology, Austria); Franz Hlawatsch (Vienna University of Technology, Austria)
SPCOM-P7.3 On the Stochastic Modeling of Desynchronization Convergence in Wireless Sensor Networks 5045
Dujdow Buranapanichkit (University College London & Torrington Place, United Kingdom); Nikos Deligiannis (University College London, United Kingdom); Yiannis Andreopoulos (University College London, United Kingdom)
SPCOM-P7.4 Distributed Bayesian estimation of arrival rates in asynchronous monitoring networks 5050
Angelo Coluccia (University of Salento, Italy); Giuseppe Notarstefano (University of Salento, Italy)
SPCOM-P7.5 Distributed detection with censoring sensors under dependent observations 5055
Hao He (Syracuse University, USA); Pramod Varshney (Syracuse University, USA)
SPCOM-P7.6 Energy-saving gossip algorithm for compressed sensing in multi-agent systems 5060
Chiara Ravazzi (Politecnico di Torino, Italy); Sophie Fosson (Politecnico di Torino, Italy); Enrico Magli (Politecnico di Torino, Italy)
SPCOM-P7.7 Distributed blind system identification in sensor networks 5065
Chengpu YU (Nanyang Technological University, Singapore); Lihua Xie (University of Nanyang Technological University, Singapore); YengChai Soh (School of EEE, Nanyang Technological University, Singapore)
SPCOM-P7.8 Decentralized vs. Centralized Scheduling in Wireless Sensor Networks For Data Fusion 5070
Mihaela Mitici (University of Twente, The Netherlands); Jasper Goseling (University of Twente, The Netherlands); Maurits de Graaf (University of Twente, The Netherlands); Richard Boucherie (University of Twente, The Netherlands)
SPCOM-P7.9 Probabilistic sensor management for target tracking via compressive sensing 5075
Yujiao Zheng (Syracuse University, USA); Thakshila Wimalajeewa (Syracuse University, USA); Pramod Varshney (Syracuse University, USA)
SPCOM-P7.10 Sparsity-Promoting Adaptive Sensor Selection for Non-Linear Filtering 5080
Sundeep Prabhakar Chepuri (Delft University of Technology, The Netherlands); Geert Leus (Delft University of Technology, The Netherlands)
SPCOM-P7.11 Topology Optimization for Energy-efficient Communications in Consensus Wireless Networks 5085
Benjamín Béjar (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Martin Vetterli (EPFL, Switzerland)

IVMSP-P9: Image Segmentation

Room: Poster Area 6
Chair: Mark Liao (Academia Sinica, Taiwan)
IVMSP-P9.1 First Maurdor 2013 Evaluation Campaign in Scanned Document Image Processing 5090
Ilya Oparin (LNE, Laboratoire National de Métrologie et d'Essais, France); Juliette Kahn (LNE, Laboratoire National de Métrologie et d'Essais, France); Olivier Galibert (LNE, Laboratoire National de Métrologie et d'Essais, France)
IVMSP-P9.2 GPU-accelerated joint 1D and 2D barcode localization on smartphones 5095
Gábor Sörös (ETH Zurich, Switzerland)
IVMSP-P9.3 Joint Learning of Foreground Region Labeling and Depth Ordering 5100
Youngjoo Seo (KAIST, Korea); Jongmin Kim (KAIST, Korea); Hoyong Jang (KAIST, Korea); Tae-Ho Kim (Korea Advanced Institute of Science and Technology, Korea); Chang D Yoo (KAIST, Korea)
IVMSP-P9.4 Multi-Scale Crest Line Extration based on Half Gaussian Kernels 5105
Baptiste Magnier (Ales School of Mines, France); Arezki Aberkane (LGI2P de l'Ecole des Mines d'Ales, France); Philippe Borianne (Umr Amap & CIRAD, France); Philippe Montesinos (Ecole des Mines d'Alès, France); Jourdan Christophe (CIRAD de Montpellier, France)
IVMSP-P9.5 Hierarchical Image Content Analysis with an Embedded Marked Point Process Framework 5110
Csaba Benedek (MTA SZTAKI & Dept. of Electronic Technology, Budapest University of Technology and Economics, Hungary)
IVMSP-P9.6 Combination of Graph Theoretic Grouping and Time-Frequency Analysis for Image Segmentation 5115
Rahele Kafieh (Isfahan University of Medicine, Iran); Hossein Rabbani (Isfahan University of Medical Sciences & The University of Iowa, Iran); Saeed Gazor (Queens University, Canada)
IVMSP-P9.7 Automatic initialization for naval application of graph segmentation techniques: a comparative study 5120
Irene Camino (Helmut Schmidt University, Germany); Udo Zölzer (Helmut-Schmidt-University Hamburg, Germany)

BISP-P5: Processing and applications in Ultrasound

Room: Poster Area 7
Chair: François Varray (CREATIS, Université de Lyon, France)
BISP-P5.1 A new method for 2D-vector blood flow imaging based on unconventional beamforming techniques 5125

Matteo Lenge (University of Florence, Italy); Alessandro Ramalli (University of Florence, Italy); Andrea Cellai (University of Florence, Italy); Piero Tortoli (University of Florence, Italy); Christian Cachard (CREATIS Lyon, France); Hervé Liebgott (CREATIS Lyon, France)

BISP-P5.2 Dynamic Receive Aperture Downsampling for Ultrasound Imaging 5130
Mohammed Albulayli (University of Victoria, Canada); Daler Rakhmatov (University of Victoria, Canada)

BISP-P5.3 Segmentation of Ultrasound Images for Phlebotomy Applications 5135
Dipti Prasad Mukherjee (Indian Statistical Institute, India); Scott Acton (University of Virginia, USA)

BISP-P5.4 A Nonlinear Ultrasound Propagation Simulator using the Slowly Varying Envelope Approximation 5140
Clément Marti (Creatis, Université de Lyon, France); François Varray (Creatis, Université de Lyon, France); Christian Cachard (CREATIS Lyon, France)

BISP-P5.5 An Integrated System For The Evaluation of Flow Mediated Dilation 5145
Alessandro Ramalli (University of Florence, Italy); Luca Bassi (University of Florence, Italy); Matteo Lenge (University of Florence, Italy); Carlo Palombo (Unversity of Pisa, Italy); Kunihiko Aizawa (University of Exeter Medical School, United Kingdom); Piero Tortoli (University of Florence, Italy)

BISP-P5.6 Amplitude and Phase Estimator for Real-Time Biomedical Spectral Doppler Applications 5149
Stefano Ricci (University of Florence, Italy); Riccardo Matera (University of Florence, Italy); Alessandro Dallai (University of Florence, Italy)

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Matthieu Toulemonde (CREATIS & Université de Lyon, France); François Varray (CREATIS, Université de Lyon, France); Olivier Basset (CREATIS, Université de Lyon, France); Piero Tortoli (University of Florence, Italy); Christian Cachard (CREATIS Lyon, France)

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AASP-P7: Reverberation Reduction, Music Information Retrieval II

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MLSP-P4: Sparsity

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SAM-P4: MIMO Radar

Room: Poster Area 10
Chair: Athina Petropulu (Rutgers, The State University of New Jersey, USA)
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Nafiseh Shariati (KTH Royal Institute of Technology, Sweden); Dave Zachariah (Uppsala University, Sweden); Mats Bengtsson (KTH Royal Institute of Technology, Sweden)

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Mojtaba Soltanalian (Uppsala University, Sweden); Mohammad Mahdi Naghsh (Isfahan University of Technology & Uppsala University, Iran); Petre Stoica (Uppsala University, Sweden)

SAM-P4.11 The Significant Gains from Optimally Processed Multiple Signals of Opportunity and Multiple Receive Stations in Passive Radar N/A
Qian He (University of Electronic Science and Technology of China, P.R. China); Rick Blum (Lehigh University, USA)

1:00 PM - 2:30 PM

Lunch Time

2:30 PM - 2:45 PM

Shaping the future: the innovative dimension of Research & Technology

2:45 PM - 3:45 PM

PT3: Plenary Talk: Green radar state of art: theory, practice and way ahead (Room Cavaniglia)

3:45 PM - 4:15 PM

Coffee break

4:15 PM - 6:15 PM

SLTC-L9: Language Identification .

Room: Cavaniglia
Chairs: Najim Dehak (Massachusetts Institute of Technology, USA), Haizhou Li (Institute for Infocomm Research, Singapore)

4:15 Improved Phonotactic Language Recognition Based on RNN Feature Reconstruction 5322
Wei-Wei Liu (Tsinghua National Laboratory for Information Science and Technology, P.R. China); Wei-Qiang Zhang (Tsinghua University, P.R. China); Yongzhe Shi (Tsinghua University, P.R. China); An Ji (Marquette University, USA); Jiaming Xu (Tsinghua University, P.R. China); Jia Liu (Tsinghua National Laboratory for Information Science and Technology, P.R. China)

4:35 Language Recognition System Using Language Branch Discriminative Information 5327
Xianliang Wang (Institute of Acoustics, Chinese Academy of Sciences, P.R. China); Yulong Wan (Institute of Acoustics, Chinese Academy of Sciences, P.R. China); Lin Yang (Institute of Acoustics, Chinese Academy of Sciences, P.R. China); Ruohua Zhou (Institute of Acoustics, Chinese Academy of Sciences, P.R. China); Yonghong Yan (Institute of Acoustics, Chinese Academy of Sciences, P.R. China)

4:55 Introducing Attribute Features to Foreign Accent Recognition 5332
Hamid Behravan (School of Computing, University of Eastern Finland, Finland); Ville Hautamäki (University of Eastern Finland, Finland); Sabato M Siniscalchi (University of Enna Kore, Italy); Tomi H. Kinnunen (University of Eastern Finland, Finland); Chin-Hui Lee (Georgia Institute of Technology, USA)

5:15 Automatic Language Identification using Deep Neural Networks 5337
Ignacio Lopez Moreno (Google Inc., USA); Javier Gonzalez-Dominguez (Universidad Autónoma de Madrid, Spain); Oldrich Plchot (Brno University of Technology, Czech Republic); David Martínez González (University of Zaragoza, Spain); Joaquin Gonzalez-Rodriguez (Universidad Autonoma de Madrid, Spain); Pedro J Moreno (Google, Inc., USA)

5:35 Extended Phone Log-Likelihood Ratio Features and Acoustic-based I-Vectors for Language Recognition 5342
Luis Fernando D'Haro (Technical University of Madrid & Speech Technology Group, Spain); Ricardo Cordoba (Speech Technology Group, Spain); Christian Salamea (Speech Technology Group, Spain); Julián David Echeverry (Speech Technology Group, Spain)

5:55 Subspace Gaussian Mixture Model for Computer-Assisted Language Learning 5347
Rong Tong (Institute for Infocomm Research, Singapore); Boon Pang Lim (Institute for Infocomm Research, Singapore); Nancy F. Chen (Institute for Infocomm Research, Singapore); Bin Ma (Institute for Infocomm Research, Singapore); Haizhou Li (Institute for Infocomm Research, Singapore)

IVMSP-L4: Image Analysis II

Room: Basilica
Chair: Alessandro Foi (Tampere University of Technology, Finland)

4:15 Regularizing inverse problems in image processing with a manifold-based model of overlapping patches 5352
Yevgen Matviychuk (University of Colorado at Boulder, USA); Shannon Hughes (University of Colorado at Boulder, USA)

4:35 Gaussian-Cauchy mixture modeling for robust signal-dependent noise estimation 5357
Lucio Azzari (Tampere University of Technology, Finland); Alessandro Foi (Tampere University of Technology, Finland)

4:55 New Bivariate Statistical Model of Natural Image Correlations 5362
Che-Chun Su (The University of Texas at Austin, USA); Lawrence Cormack (The University of Texas at Austin, USA); Alan C Bovik (University of Texas at Austin, USA)

5:15 A multivariate statistical model for multiple images acquired by homogeneous or heterogeneous sensors 5367

Jorge Prendes (Supélec & TéSA Laboratory, France); Marie Chabert (Irit/Enseeiht, France); Frederic Pascal (Supélec, France); Alain Giros (CNES, France); Jean-Yves Tourneret (University of Toulouse & IRIT/ENSEEIHT/TéSA, France)

5:35 Saliency Driven Clustering for Salient Object Detection 5372
Zhou Lei (Shang Hai Jiao Tong University, P.R. China); Yijun Li (Shanghai Jiao Tong University, P.R. China); Yipeng Song (Shanghai Jiaotong University, P.R. China); Yu Qiao (Shanghai Jiao Tong University, P.R. China); Jie Yang (Inst. of Image Processing & Pattern Recognition, Jiaotong University, Shanghai, P.R. China)

5:55 2D Hilbert-Huang Transform 5377
Jérémy Schmitt (Laboratoire de Physique ENS Lyon, France); Nelly Pustelnik (ENS Lyon & Laboratoire de Physique, France); Pierre Borgnat (ENS Lyon, CNRS, France); Patrick Flandrin (CNRS-ENS de Lyon, France)

SS9: Array signal processing for radio astronomy: the SKA is the future

Room: Polveriera
Chairs: Stefan J. Wijnholds (ASTRON, The Netherlands), Alfonso Farina (SELEX-SI, Italy)

4:15 Signal Processing Challenges for Radio Astronomical Arrays 5382
Stefan J. Wijnholds (ASTRON, The Netherlands); Alle Jan van der Veen (Delft University, The Netherlands); Filippo De Stefani (SELEX - Sistemi Integrati, Italy); Emanuele La Rosa (Selex ES, Italy); Alfonso Farina (SELEX-SI, Italy)

4:35 RFI Spatial Processing at Nançay Observatory: Approaches and Experiments 5387
Gregory Hellbourg (Observatoire de Paris, France); Rodolphe Weber (University of Orleans & Laboratoire PRISME, France); Karim Abed-Meraim (Polytech'Orléans & University of Sharjah, UAE, France); Albert Jan Boonstra (ASTRON, The Netherlands)

4:55 Robust Radio Interferometric Calibration 5392
Sarod Yatawatta (ASTRON, The Netherlands); Sanaz Kazemi (University of Groningen, The Netherlands)

5:15 Holistic Power Analysis of Implementation Alternatives for a Very Large Scale Synthesis Array with Phased Array Stations 5397
Andreea Anghel (IBM Research - Zurich & Swiss Federal Institute of Technology Zurich (ETHZ), Switzerland); Rik Jongerius (IBM Research, The Netherlands); Gero Dittmann (IBM Research, Zurich Research Laboratory, Switzerland); Jonas Weiss (IBM Research GmbH, Zurich Research Laboratory, Switzerland); Ronald P. Luijten (IBM Zurich research Laboratory, Switzerland)

5:35 A Computationally Efficient Self-Calibration Algorithm for the LOFAR Radio Astronomical Array 5402
Yuntao Wu (Wuhan Institute of Technology, P.R. China); Amir Leshem (Bar-Ilan University, Israel); Stefan J. Wijnholds (ASTRON, The Netherlands)

5:55 PURIFY: a new algorithmic framework for next-generation radio-interferometric imaging 5407
Rafael Carrillo (EPFL, Switzerland); Jason McEwen (University College London, United Kingdom); Yves Wiaux (Heriot Watt University, United Kingdom)

MLSP-L2: Neural Network Methods

Room: Scherma
Chairs: Li Deng (Microsoft Research, USA), Konstantinos Diamantaras (TEI of Thessaloniki, Greece)

4:15 On-Line Continuous-Time Music Mood Regression with Deep Recurrent Neural Networks 5412
Felix J Weninger (Technische Universität München, Germany); Florian Eyben (Technische Universität München, Germany); Björn W Schuller (Imperial College London & Technische Universität München, Germany)

4:35 Phone sequence modeling with recurrent neural networks 5417
Nicolas Boulanger-Lewandowski (University of Montreal, Canada); Jasha Droppo (Microsoft Research, USA); Mike Seltzer (Microsoft Research, USA); Dong Yu (Microsoft Research, USA)

4:55 Deep Learning of Split Temporal Context for Automatic Speech Recognition 5422
Moez Baccouche (Orange Labs, France); Benoît Besset (Orange Labs, France); Patrice Collen (Orange Labs, France); Olivier Le Blouch (Orange Labs, France)

5:15 Minimum Variance Extreme Learning Machine for Human Action Recognition 5427
Alexandros Iosifidis (Aristotle University of Thessaloniki, Greece); Anastasios Tefas (Aristotle University of Thessaloniki, Greece); Ioannis Pitas (Aristotle University of Thessaloniki, Greece)

5:35 3D gesture classification with convolutional neural networks 5432
Stefan Duffner (LIRIS, INSA de Lyon, France); Samuel Berlemont (Orange Labs, France); Grégoire Lefebvre (Orange Labs, France); Christophe Garcia (INSA Lyon, France)

5:55 Deep Hybrid Networks with good out-of-sample object recognition 5437
Muhammad Ghifary (Victoria University of Wellington, New Zealand); W. Bastiaan Kleijn (Victoria University of Wellington, New Zealand); Mengjie Zhang (VUW, New Zealand)

SPCOM-L5: Consensus and distributed estimation

Room: Teatrino
Chair: Amir Leshem (Bar-Ilan University, Israel)

4:15 On The Convergence of Average Consensus With Generalized Metropolis-Hasting Weights 5442
Valentin Schwarz (Vienna University of Technology, Austria); Gabor Hannak (Vienna University of Technology, Austria); Gerald Matz (Vienna University of Technology, Austria)

4:35 Decentralized Linearized Alternating Direction Method of Multipliers 5447
Qing Ling (University of Science and Technology of China, P.R. China); Alejandro Ribeiro (University of Pennsylvania, USA)

4:55 Optimal Power Allocation for Distributed BLUE Estimation with Linear Spatial Collaboration 5452
Mohammad Fanaei (West Virginia University, USA); Matthew Valenti (West Virginia University, USA); Abbas Jamalipour (University of Sydney, Australia); Natalia A. Schmid (West Virginia University, USA)
5:15 Robust Detection and Social Learning in Tandem Networks 5457
Jun Feng Jack Ho (Nanyang Technological University, Singapore); Wee Peng Tay (Nanyang Technological University, Singapore); Tony Q. S. Quek (Singapore University of Technology and Design (SUTD) & Institute for Infocomm Research, Singapore)
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Ondrej Slučiak (Vienna University of Technology, Austria); Markus Rupp (Vienna University of Technology, Austria)
5:55 Incentivizing Information Sharing in Networks 5467
Jie Xu (University of California, Los Angeles, USA); Yangbo Song (University of California, Los Angeles, USA); Mihaela van der Schaar (University of California, Los Angeles (UCLA), USA)

SPTM-L7: Advances in Adaptive Filtering

Room: Volta
Chairs: Kostas Berberidis (University of Patras, Greece), Sergios Theodoridis (University of Athens, Greece)
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Masao Yamagishi (Tokyo Institute of Technology, Japan); Masahiro Yukawa (Keio University, Japan); Isao Yamada (Tokyo Institute of Technology, Japan)
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Cédric Richard (Université de Nice Sophia-Antipolis, France); Jie Chen (Université de Nice Sophia-Antipolis, France); Ali H. Sayed (University of California, Los Angeles, USA)
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Walter Kozacky (Santa Clara University, USA); Tokunbo Ogunfunmi (Santa Clara University, USA)
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Symeon Chouvardas (University of Athens, Greece); Yannis Kopsinis (University of Athens, Greece); Sergios Theodoridis (University of Athens, Greece)

SLTC-P15: Robust Speech Recognition II

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Chair: Geoffery Zweig (Microsoft Research, USA)
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Feifei Xiong (Fraunhofer IDMT-HSA, Germany); Stefan Goetze (Fraunhofer IDMT-HSA, Germany); Bernd Meyer (University of Oldenburg, Germany)
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SLTC-P16: Deep Neural Networks in Speech Recognition II

Room: Poster Area 2
Chair: Patrick Nguyen (Big Data Startup, USA)

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Chao Weng (Georgia Institute of Technology, USA); Dong Yu (Microsoft Research, USA); Mike Seltzer (Microsoft Research, USA); Jasha Droppo (Microsoft Research, USA)

SPTM-P13: Estimation and Optimization

Room: Poster Area 3
Chair: Jean-Yves Tourneret (University of Toulouse & IRIT/ENSEEIHT/TéSA, France)
SPTM-P13.1 A Fast Eigen Solution for Homogeneous Quadratic Minimization with at most three Constraints N/A
Dinesh Dileep Gaurav (Indian Institute of Science, India)
SPTM-P13.2 Joint Frequency and Phasor Estimation under the KCL Constraint N/A
Tirza Routtenberg (Cornell University, USA); Lang Tong (Cornell University, USA)
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Nuri Denizcan Vanli (Bilkent University, Turkey); Mehmet A Donmez (University of Illinois at Urbana Champaign, USA); Suleyman Serdar Kozat (Bilkent University, Turkey)
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Antonio Alberto D'Amico (University of Pisa, Italy); Luca Sanguinetti (University of Pisa, Italy); Daniel P Palomar (Hong Kong University of Science and Technology, Hong Kong)
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Ilya Soloveychik (HUJI, Israel); Ami Wiesel (Hebrew University in Jerusalem, Israel)
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Hamza Soganci (Bilkent University, Turkey); Sinan Gezici (Bilkent University, Turkey); Orhan Arikan (Bilkent University, Turkey)
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Marcelo Pereyra (University of Bristol, United Kingdom); Nicolas Dobigeon (University of Toulouse, France); Hadj Batatia (University of Toulouse, France); Jean-Yves Tourneret (University of Toulouse & IRIT/ENSEEIHT/TéSA, France)
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Francois-Xavier Socheleau (ENSTA Bretagne, France); Dominique Pastor (Ecole Nationale Superieure des Telecommunications de Bretagne, France); Mathieu Duret (ENSTA Bretagne, France)
SPTM-P13.11 On the Randomized Kaczmarz Algorithm N/A
Liang Dai (Uppsala University, Sweden); Mojtaba Soltanalian (Uppsala University, Sweden); Kristiaan Pelckmans (Uppsala University, Sweden)
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Septimia Sarbu (Tampere University of Technology, Finland)
SPTM-P13.13 Approximate Least Squares Parameter Estimation with Structured Observations 5671
Atulya Yellepeddi (Massachusetts Institute of Technology & Woods Hole Oceanographic Institution, USA); James Preisig (Woods Hole Oceanographic Institution, USA)
SPTM-P13.14 Maximum A Posteriori Estimation of Signal Rank 5676
Songsri Sirianunpiboon (Defence Science & Technology Organisation, Australia); Stephen D Howard (Defence Science & Technology Organisation, Australia); Douglas Cochran (Arizona State University, USA)

SPCOM-P8: Physical Layer Security

Room: Poster Area 4
Chair: Wing-Kin Ma (The Chinese University of Hong Kong, Hong Kong)
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Sandipan Kundu (SUNY at Buffalo, USA); Dimitris A. Pados (The State University of New York at Buffalo, USA); Stella N. Batalama (State University of New York at Buffalo, USA)
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Jens Steinwandt (Ilmenau University of Technology, Germany); Sergiy A. Vorobyov (Aalto University & University of Alberta on leave, Finland); Martin Haardt (Ilmenau University of Technology, Germany)
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Rodrigo Kaido (Federal University of Technology - Parana, Brazil); Ohara K. Rayel (Federal University of Technology - Parana, Brazil); João Luiz Rebelatto (Federal University of Technology - Parana, Brazil); Richard Demo Souza (Federal University of Technology - Paraná (UTFPR), Brazil)
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Luxemburg); Symeon Chatzinotas (University of Luxembourg, Luxemburg); Björn Ottersten (University of Luxembourg, Luxemburg)

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Jie Gao (University of Alberta, Canada); Sergiy A. Vorobyov (Aalto University & University of Alberta on leave, Finland); Hai Jiang (University of Alberta, Canada)

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Zeina Mheich (LSS Supélec, France); Florence Alberge (University Paris-Sud, France); Pierre Duhamel (Lss Supelec & CNRS, France)

SPCOM-P8.7 Destination Assisted Secret Wireless Communication with Cooperative Helpers N/A

Bin Yang (Xi'an Jiaotong University, P.R. China); Wenjie Wang (Xi'an Jiaotong University, P.R. China); Bobin Yao (Xi'an Jiaotong University, P.R. China); Qinye Yin (Xi'an Jiaotong University, P.R. China)

SPCOM-P8.8 Artificial Noise Generated in MIMO Scenario: Optimal Power Design N/A

Yongkai Zhou (Shanghai Jiao Tong University, P.R. China); Yan Zhu (University of Shang Hai JiaoTong, P.R. China); Shivani Patel (Ohio State University, USA); Zhi Xue (Shanghai Jiao Tong University, P.R. China); Xiao Chen (Shanghai Jiao Tong University, Shanghai, P.R. China); Liang Pang (Shanghai Jiao Tong University, Shanghai, P.R. China)

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Xiyuan Wang (University of Science and Technology Beijing, P.R. China); Zhongshan Zhang (University of Science and Technology Beijing (USTB), P.R. China); Keping Long (University of Science and Technology Beijing, P.R. China)

SPCOM-P9: Synchronization, training and receiver design

Room: Poster Area 5

Chair: Eleftherios Kofidis (University of Piraeus, Greece)

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Mats Bengtsson (KTH Royal Institute of Technology, Sweden)

SPCOM-P9.2 Training signal design for MIMO channel estimation with correlated disturbance 5720

Qingjiang Shi (Zhejiang Sci-Tech University, P.R. China); Cheng Peng (Zhejiang Sci-Tech University, P.R. China); Weiqiang Xu (Zhejiang Sci-Tech University, P.R. China); Yongchao Wang (Xidian University, P.R. China)

SPCOM-P9.3 Inter-User Interference in Molecular Communication Networks 5725

Chunxiao Jiang (Tsinghua University, Beijing, P.R. China); Yan Chen (University of Maryland, College Park, USA); K. J. Ray Liu (University of Maryland, USA)

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Daimei Zhu (University of Utah, USA); V. John Mathews (University of Utah, USA); David H Detienne (Raytheon Applied Signal Technology, USA)

SPCOM-P9.5 On the Accuracy of the High SNR Approximation of the Differential Entropy of Signals in Additive Gaussian Noise 5735

Ramy Gohary (Carleton University, Canada); Halim Yanikomeroglu (Carleton University, Canada)

SPCOM-P9.6 Feedback Blind Phase Synchronization For QAM Signals Based On Circular Harmonic Decomposition 5739

Alexander B. Sergienko (St. Petersburg Electrotechnical University, Russia); Alexander Petrov (Saint Petersburg Electrotechnical University, Russia)

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Daniel Bartel (Johannes Kepler University Linz, Austria); Bernhard Etzlinger (Johannes Kepler University Linz, Austria); Andreas Springer (Johannes Kepler University Linz, Austria)

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Cong Luong Nguyen (University Paris 13, Sorbonne, Paris, Cité, France); Anissa Mokraoui (Université Paris 13, Sorbone Paris Cité & Institut Galilée, L2TI, France); Pierre Duhamel (Lss Supelec & CNRS, France); Nguyen Linh-Trung (Vietnam National University, Hanoi, Vietnam)

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Donald R. Brown, III (Worcester Polytechnic Institute, USA); Andrew G Klein (Worcester Polytechnic Institute, USA)

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Yinsheng Liu (Beijing Jiaotong University, P.R. China); Zhenhui Tan (Beijing JiaoTong University, Beijing, P.R. China); Geoffrey Li (Georgia Tech, USA)

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Gareth Peters (University College London London, United Kingdom); Ido Nevat (Institute for Infocomm Research, Singapore); Clavier Laurent (Institut Mines-Telecom, Telecom Lille & IEMN / IRCICA, France); François Septier (Institut Mines-Telecom/Telecom Lille/LAGIS UMR CNRS 8219, France)

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Josep Font-Segura (Technical University of Catalonia, Spain); Jaume Riba (UPC, Spain); Javier Villares (Technical University of Catalonia, Spain); Gregori Vazquez (Technical University of Catalonia, Spain)

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Donatella Darsena (University of Napoli Parthenope, Italy); Giacinto Gelli (University of Napoli - Federico II, Italy); Francesco Verde (University of Napoli Federico II & National Laboratory for Multimedia Communications of National Inter-University Consortium for Teleco, Italy)

IVMSP-P10: Interpolation and Super-resolution

BISP-P6: EEG data processing II

AASP-P8: Echo Control II, Acoustic Event Analysis

Room: Poster Area 8
Chair: Emanuël Habets (International Audio Laboratories Erlangen, Germany)

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Room: Poster Area 9
Chair: Z. Jane Wang (University of British Columbia, Canada)
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Thu Tran (POSTECH, Korea); Seungjin Choi (Pohang University of Science and Technology, Korea)
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Taro Tezuka (University of Tsukuba, Japan)
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Shibiao Wan (The Hong Kong Polytechnic University, Hong Kong); Man-wai Mak (Hong Kong Polytechnic University, Hong Kong); Bai Zhang (Johns Hopkins Medical Institutions, USA); Yue Wang (Virginia Tech, USA); S. y. Kung (Princeton University, USA)
MLSP-P5.6 Finding EEG space-time-scale localized features using matrix-based penalized discriminant analysis 6004
Juliette Spinnato (Aix-Marseille Universite & LATP, France); Marie-Christine Roubaud (Aix-Marseille Université, France); Boris Burle (CNRS, France); Bruno Torrésani (Aix-Marseille Université, France)
MLSP-P5.7 Questionnaire Simplification for Fast Risk Analysis of Children's Mental Health 6009
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Olga Zoidi (Aristotle University of Thessaloniki, Greece); Nikos Nikolaidis (Aristotle University of Thessaloniki & Informatics and Telematics Institute, CERTH, Greece); Ioannis Pitas (Aristotle University of Thessaloniki, Greece)
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Pei-Yuan Wu (Department of Electrical Engineering, Princeton University, USA); Chi-Chen Fang (Iowa State University, USA); J. Morris Chang (Iowa State University, USA); Stephen Gilbert (Iowa State University, USA); S. y. Kung (Princeton University, USA)
MLSP-P5.12 An Inference Framework for Detection of Home Appliance Activation from Voltage Measurements 6033
Zeyu You (Oregon State University, USA); Raviv Raich (Oregon State University, USA); Catherine Huang (Intel Labs, USA)
MLSP-P5.13 A new approach for classification of dolphin whistles 6038
Mahdi Esfahanian (Florida Atlantic University, USA); Hanqi Zhuang (Florida Atlantic University, USA); Nurgun Erdol (Florida Atlantic University, USA)

SAM-P5: Beamforming and Sensor Array Processing

Room: Poster Area 10
Chair: Xavier Mestre (CTTC, Spain)
SAM-P5.1 Robust Adaptive Beamforming Based on Response Vector Optimization 6043
Jingwei Xu (Xidian University, P.R. China); Guisheng Liao (Xidian University, P.R. China); Shengqi Zhu (Xidian University, P.R. China)
SAM-P5.2 MIMO RF Probe For Wide-area Indoor Human Motion Monitoring 6047
Chi Xu (Duke University, USA); Jeffrey Krolik (Duke University, USA)
SAM-P5.3 Optimization of transmit signals to interfere eavesdropping in a wireless LAN 6052

Shuichi Ohno (Hiroshima University, Japan); Yuji Wakasa (Yamaguchi University, Japan); Shui Yan (Valeo Interior Control Co., Ltd., P.R. China); Emmanuel Chifuel Manasseh (Hiroshima University, Japan)

SAM-P5.4 Optimal power Allocation and network beamforming for OFDM-based relay networks 6057

Ruhallah AliHemmati (TMU, Iran); Shahram ShahbazPanahi (University of Ontario Institute of Technology, Canada); Min Dong (University of Ontario Institute of Technology, Canada)

SAM-P5.5 A Conic Quadratic Programming Approach to Physical Layer Multicasting for Large-Scale Antenna Arrays N/A

Le-Nam Tran (University of Oulu & Centre for Wireless Communications, Finland); Muhammad Fainan Hanif (University of Oulu, Finland); Markku Juntti (University of Oulu, Finland)

SAM-P5.6 A Generalized Theorem on the Average Array Directivity Factor N/A

Dovid Y. Levin (Bar-Ilan University, Israel); Emanuël Habets (International Audio Laboratories Erlangen, Germany); Sharon Gannot (Bar-Ilan University, Israel)

SAM-P5.7 Time-Varying STAP for Nonstationary Hot Clutter Cancellation 6062

Giuseppe Fabrizio (Defence Science and Technology Organisation, Australia); Alfonso Farina (SELEX-SI, Italy)

SAM-P5.8 Knowledge-Aided Parametric Adaptive Matched Filter with Automatic Combining for Covariance Estimation 6067

Pu Wang (Schlumberger-Doll Research, USA); Hongbin Li (Stevens Institute of Technology, USA); Zhe Wang (Stevens Institute of Technology, USA); Braham Himed (AFRL, USA)

SAM-P5.9 ISAR Imaging by Exploiting the Continuity of Target Scene 6072

Lu Wang (Nanyang Technological University, Singapore); Lifan Zhao (Nanyang Technological University, Singapore); Guoan Bi (Nanyang Technological University, Singapore); Liren Zhang (United Arab Emirates University, UAE)

SAM-P5.10 A network of HF surface wave radars for maritime surveillance: preliminary results in the German Bight 6077

Salvatore Maresca (NATO Science and Technology Organization Centre for Maritime Research and Experimentation, Italy); Paolo Braca (NATO STO Centre for Maritime Research and Experimentation, Italy); Jochen Horstmann (NURC, Italy); Raffaele Grasso (CMRE, Italy)

Friday, May 9

8:30 AM - 10:30 AM

SLTC-L10: Speech Enhancement

Room: Cavaniglia

Chairs: Tim Fingscheidt (Technische Universität Braunschweig, Germany), Frank Soong (Microsoft Research Asia, USA)

8:30 On Speech Quality Assessment of Artificial Bandwidth Extension 6082

Patrick Bauer (Technische Universität Braunschweig & Institute for Communications Technology, Germany); Cyril Guillaumé (NXP Software, Leuven, Belgium); Wouter Tirry (NXP Software, Leuven, Belgium); Tim Fingscheidt (Technische Universität Braunschweig, Germany)

8:50 A Maximum A Posterior-based Reconstruction Approach to Speech Bandwidth Expansion in Noise 6087

Hyunson Seo (Yonsei University, Korea); Frank Soong (Microsoft Research Asia, USA); Hong-Goo Kang (Yonsei University, Korea)

9:10 Exploiting The Baseband Phase Structure Of The Voiced Speech For Speech Enhancement 6092

Sanjay Patil (Clemson University, USA); John Gowdy (Clemson University, USA)

9:30 Non-linear Soft-sounds Enhancement for near-end Speech Intelligibility Improvement 6097

Rajyalakshmi Dokku (Ruhr-Universität Bochum, Germany)

9:50 Binaural Noise Suppression Based on an Unbiased Estimator of Target PSD in Complex Noise Environments 6102

Youna Ji (Yonsei University, Korea); Young-cheol Park (Yonsei University, Korea); Dae Hee Youn (Yonsei University, Korea)

10:10 A Structure-Preserving Training Target For Supervised Speech Separation 6107

Yuxuan Wang (The Ohio State University, USA); DeLiang Wang (Ohio State University, USA)

SPTM-L8: Signal Processing on Networks

Room: Basilica

Chairs: Sergio Barbarossa (University of Rome La Sapienza", Italy), Franz Hlawatsch (Vienna University of Technology, Austria)

8:30 Large Deviations Analysis of Adaptive Distributed Detection 6112

Paolo Braca (NATO STO Centre for Maritime Research and Experimentation, Italy); Stefano Marano (University of Salerno, Italy); Vincenzo Matta (University of Salerno, Italy); Ali H. Sayed (University of California, Los Angeles, USA)

8:50 Distributed Decorrelation in Sensor Networks with Application to Distributed Particle Filtering 6117

Michael Moldaschl (University of Vienna, Austria); Wilfried Gansterer (University of Vienna, Austria); Ondrej Hlinka (Vienna University of Technology, Austria); Florian Meyer (Vienna University of Technology, Austria); Franz Hlawatsch (Vienna University of Technology, Austria)

9:10 Ordinal Potential Functions for Network Selection in Heterogeneous Wireless Networks 6122

Liang Ze Wong (Institute for Infocomm Research, Singapore); Tony Q. S. Quek (Singapore University of Technology and Design (SUTD) & Institute for Infocomm Research, Singapore); Michael Padilla (Singapore University of Technology and Design (SUTD), Singapore)

9:30 Crawford-Sobel meet Lloyd-Max on the grid 6127

Benjamin Larrousse (University Paris 11, France); Olivier Beaude (Laboratory of Signals and Systems, France); Samson E Lasaulce (CNRS - Supelec, France)

9:50 Probabilistic ranking of multi-attribute items using indifference curve 6132
Xiaohui Gong (University of Alberta, Canada); H. Vicky Zhao (University of Alberta, Canada); Yan Sun (University of Rhode Island, USA)

10:10 Multi-Agent Distributed Large-Scale Optimization by Inexact Consensus Alternating Direction Method of Multipliers 6137
Tsung-Hui Chang (National Taiwan University of Science and Technology, Taiwan); Mingyi Hong (University of Minnesota, USA); Xiangfeng Wang (Nanjing University, P.R. China)

SS10: Dynamic Geometry Compression

Room: Polveriera
Chair: Dinei Florencio (Microsoft Research, USA)

8:30 Hybrid compression of dynamic 3D mesh data 6142
Choong-Hoon Kwak (Simon Fraser University, Canada); Ivan V. Bajic (Simon Fraser University, Canada)

8:50 On Human Time-Varying Mesh Compression Exploiting Activity-Related Characteristics 6147
Alexandros Doumanoglou (Information Technologies Institute, Greece); Dimitrios Alexiadis (Informatics & Telematics Institute, Greece); Stylianos Asteriadis (Information Technologies Institute, Greece); Dimitrios Zarpalas (Informatics and Telematics Institute, Greece); Petros Daras (Centre for Research and Technology Hellas, Greece)

9:10 Compression of Human Body Sequences Using Graph Wavelet Filter Banks 6152
Ha Q. Nguyen (University of Illinois at Urbana-Champaign, USA); Philip A. Chou (Microsoft Research, USA); Yinpeng Chen (Microsoft Research, USA)

9:30 3D Geometry Representation using Multiview Coding of Image Tiles 6157
Yu Gao (Simon Fraser University, Canada); Gene Cheung (National Institute of Informatics, Japan); Thomas Maugey (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Pascal Frossard (EPFL, Switzerland); Jie Liang (Simon Fraser University, Canada)

9:50 Low Complexity Connectivity Driven Dynamic Geometry Compression for 3D Tele-Immersion 6162
Rufael Mekuria (Centrum Wiskunde Informatica, The Netherlands); Pablo Cesar (CWI, The Netherlands); Dick Bulterman (CWI, The Netherlands)

SS11: Signal Processing Techniques for Interference Alignment

Room: Scherma
Chair: Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom)

8:30 Link Adaptation for Interference Alignment with Imperfect CSIT 6167
Mohsen Rezaee (Vienna University of Technology, Austria); Mehrdad Taki (Tehran University of Iran, Iran); Maxime Guillaud (Vienna University of Technology, Austria)

8:50 Ergodic Interference Alignment for the SIMO/MIMO Interference Channel 6172
Yohan Lejosne (EURECOM, France); Dirk Slock (EURECOM, France); Yi Yuan-Wu (Orange Labs, France)

9:10 Interference Alignment (IA) and Coordinated Multi-Point (CoMP) with IEEE802.11ac feedback compression: testbed results 6176
Per Zetterberg (KTH Royal Institute of Technology, Sweden)

9:30 Performance Analysis of Distributed Cooperation under Uncoordinated Network Interference 6181
Nikolaos Pappas (Linköping University, Sweden); Marios Kountouris (Supélec, France)

9:50 Pilot-assisted ergodic interference alignment for wireless networks 6186
Hamed Farhadi (KTH Royal Institute of Technology, Sweden); Majid Nasiri Khormuji (Huawei Technologies Sweden, Sweden); Mikael Skoglund (KTH Royal Institute of Technology, Sweden)

10:10 Homotopy Continuation for Vector Space Interference Alignment in MIMO X Networks 6191
Óscar González (University of Cantabria, Spain); Jacobo Fanjul (University of Cantabria, Spain); Ignacio Santamaría (University of Cantabria, Spain)

MLSP-L3: Source Separation

Room: Teatrino
Chair: Tulay Adali (University of Maryland Baltimore County, USA)

8:30 Jacobi Like Algorithm for Non-Orthogonal Joint Diagonalization of Hermitian Matrices 6196
Victor Maurandi (Université de Toulon, France); Eric Moreau (University of Toulon & LSIS UMR CNRS 7296, France); Christophe De Luigi (Université du Sud Toulon-Var, LSEET UMR, France)

8:50 Alternating Direction Method of Multipliers for Non-Negative Matrix Factorization with the Beta-Divergence 6201
Dennis Sun (Stanford University, USA); Cédric Févotte (CNRS & Laboratoire Lagrange (CNRS, Observatoire de la Côte d'Azur & Université de Nice Sophia Antipolis), France)

9:10 Non-negative Source-Filter Dynamical System for Speech Enhancement 6206
Umut Şimşekli (Bogazici University, Turkey); Jonathan Le Roux (Mitsubishi Electric Research Laboratories, USA); John Hershey (MERL, USA)

9:30 Analyzing Data into Quantized Components 6211
Konstantinos Diamantaras (TEI of Thessaloniki, Greece); Theophilos Papadimitriou (Democritus University of Thrace, Greece); Konstantinos Goulianas (TEI of Thessaloniki, Greece)

9:50 An efficient entropy rate estimator for complex-valued signal processing: Application to ICA 6216
Gengshen Fu (UMBC, USA); Ronald Phlypo (INRIA & CEA Neurospin, France); Matthew Anderson (UBMC, USA); Xi-Lin Li (Fortemedia, USA); Tulay Adali (University of Maryland Baltimore County, USA)

10:10 Blind qubit state disentanglement with quantum processing: principle, criterion and algorithm using measurements along two directions 6221
Yannick Deville (University of Toulouse, France); Alain Deville (Aix-Marseille Univ, France)

IFS-L2: Forensics, Biometrics, and Privacy

Room: Volta
Chairs: Pedro Comesaña (Universidad de Vigo, Spain), Anthony T S Ho (University of Surrey, United Kingdom)
8:30 A Video Forensic Technique for Detecting Frame Deletion and Insertion 6226
Alessandra Gironi (Università di Firenze, Italy); Marco Fontani (University of Siena & University of Florence, Italy); Tiziano Bianchi (Politecnico di Torino, Italy); Alessandro Piva (University of Florence, Italy); Mauro Barni (University of Siena, Italy)
8:50 Guided filtering for PRNU-based localization of small-size image forgeries 6231
Giovanni Chierchia (Institut Mines-Télécom, Télécom ParisTech, CNRS LTCI, France); Davide Cozzolino (University Federico II of Naples, Italy); Giovanni Poggi (Università Federico II di Napoli, Italy); Carlo Sansone (Universita' degli Studi di Napoli Federico II, Italy); Luisa Verdoliva (University of Napoli, Italy)
9:10 Printer Identification from Micro-metric Scale Printing 6236
Quoc Thong Nguyen (LAGIS UMR CNRS 8146, France); Yves Delignon (Institut TELECOM/TELECOM Lille1 & Lagis UMR CNRS 8146, France); Lionel Chagas (LGP2 UMR CNRS 5518, France); François Septier (Institut Mines-Telecom/Telecom Lille/LAGIS UMR CNRS 8219, France)
9:30 The Role of Permutation Coding in Minimum-distortion Perfect Counterforensics 6240
Félix Balado (University College Dublin, Ireland)
9:50 Joint kernel collaborative representation on tensor manifold for face recognition 6245
Yeong Khang Lee (Yonsei University, Korea); Andrew Teoh Beng Jin (Yonsei University, Korea); Kar-Ann Toh (Yonsei University, Korea)
10:10 Privacy-Preserving Function Computation by Exploitation of Friendships in Social Networks 6250
Farid Movahedi Naini (EPFL, Switzerland); Jayakrishnan Unnikrishnan (EPFL, Switzerland); Patrick Thiran (EPFL, Switzerland); Martin Vetterli (EPFL, Switzerland)

SLTC-P17: Speech Analysis and Coding

Room: Poster Area 1
Chair: Tom Bäckström (Friedrich-Alexander University Erlangen-Nürnberg & Fraunhofer IIS, Germany)
SLTC-P17.1 Sparse Representation Based on a Bag of Spectral Exemplars for Acoustic Event Detection 6255
Xugang Lu (NICT, Japan); Yu Tsao (Research Center for Information Technology Innovation, Academia Sinica, Taiwan); Shigeki Matsuda (NICT, Japan); Chiori Hori (NICT, Japan)
SLTC-P17.2 Robust Full-band Adaptive Sinusoidal Analysis and Synthesis of Speech 6260
George Kafentzis (Orange Labs, France); Olivier Rosec (Voxygen S.A., France); Yannis Stylianou (University of Crete, Greece)
SLTC-P17.3 An Adaptive Time-Frequency Analysis Scheme for Improved Real-Time Speech Enhancement 6265
Kristian Timm Andersen (KU Leuven & Widex A/S, Denmark); Marc Moonen (KU Leuven, Belgium)
SLTC-P17.4 A Fixed Dimension and Perceptually based Dynamic Sinusoidal Model of Speech 6270
Qiong HU (University of Edinburgh & Toshiba Cambridge, United Kingdom); Yannis Stylianou (University of Crete, Greece); Korin Richmond (The University of Edinburgh, United Kingdom); Ranniery Maia (Toshiba Cambridge Research Lab, United Kingdom); Junichi Yamagishi (Univ of Edinburgh, United Kingdom); Javier Latorre (Toshiba, United Kingdom)
SLTC-P17.5 Energy-Constrained Minimum Variance Response Filter for Robust Vowel Spectral Estimation 6275
Colin Vaz (University of Southern California, USA); Andreas Tsiartas (USC, USA); Shrikanth Narayanan (University of Southern California, USA)
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Jouni Pohjalainen (Aalto University, Finland); Paavo Alku (Aalto University, Finland)
SLTC-P17.8 Time Varying Linear Prediction using sparsity constraints 6290
Srikanth Raj Chetupalli (Indian Institute of Science, India); Thippur V. Sreenivas (Indian Institute of Science, India)
SLTC-P17.9 Design of Optimal Wavelets for Detecting Impulse Noise in Speech 6294
Rajeev Nongpiur (University of Victoria, Canada); Dale Shpak (University of Victoria, Canada); Pan Agathoklis (University of Victoria, Canada)
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Obada Alhaj Moussa (KTH EE, Sweden); Minyue Li (Google Inc., P.R. China); W. Bastiaan Kleijn (Victoria University of Wellington, New Zealand)
SLTC-P17.11 Intra-Predictive Switched Split Vector Quantization of Speech Spectra N/A
Miguel Arjona Ramirez (University of São Paulo, Brazil)
SLTC-P17.12 Estimating Speaker Height and Subglottal Resonances Using MFCCs and GMMs N/A
Harish Arsikere (University of California, Los Angeles, USA); Steven Lulich (Indiana University, Bloomington, USA); Abeer Alwan (UCLA, USA)
SLTC-P17.13 Frequency warping using subglottal resonances: complementarity with VTLN and robustness to additive noise 6304
Harish Arsikere (University of California, Los Angeles, USA); Abeer Alwan (UCLA, USA)
SLTC-P17.14 Shift-Invariant Features for Speech Activity Detection in Adverse Radio-Frequency Channel Conditions 6309

Mohamed Kamal Omar (IBM, USA); Sriram Ganapathy (IBM Research & IBM TJ Watson, USA)

SLTC-P18: Adaptation in Speech Recognition

Room: Poster Area 2
Chair: Mike Seltzer (Microsoft Research, USA)
SLTC-P18.1 Using contextual information in Joint Factor Eigenspace MLLR for speech recognition in diverse scenarios 6314
Oscar Saz (University of Sheffield, United Kingdom); Thomas Hain (University of Sheffield, United Kingdom)
SLTC-P18.2 Regularized Constrained Maximum Likelihood Linear Regression for Speech Recognition 6319
Sina Hamidi Ghalehjegh (McGill University, Canada); Richard Rose (McGill University, Canada)
SLTC-P18.3 Two-Stage Speaker Adaptation in Subspace Gaussian Mixture Models 6324
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Yunlong Wang (Stony Brook University, USA); Petar M. Djurić (Stony Brook University, USA)

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Henry E Baidoo-Williams (University of Iowa, USA); Soura Dasgupta (The University of Iowa, USA); Raghuraman Mudumbai (University of Iowa, USA); Erwei Bai (University of Iowa, USA)

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Nuan Song (Ilmenau University of Technology, Germany); Waheed Ullah Alokozai (Ilmenau University of Technology, Germany); Rodrigo C. de Lamare (University of York, United Kingdom); Martin Haardt (Ilmenau University of Technology, Germany)

SPCOM-P10: Distributed and sparse signal processing with applications

Room: Poster Area 4

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Nicolas Schneckenburger (German Aerospace Center (DLR), Germany); Dmitriy Shutin (German Aerospace Center (DLR), Germany)

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SPCOM-P11: Estimation in communication systems

Room: Poster Area 5

Chair: Chong-Yung Chi (National Tsing Hua University, Taiwan)

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Room: Poster Area 6
Chair: Andrea Cavallaro (Queen Mary, University of London, United Kingdom)
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Seyed Kamran Pedram (Brunel University, United Kingdom); Saeed Vaseghi (Brunel University, United Kingdom); Bahareh Langari (Brunel University, United Kingdom)

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Room: Poster Area 9
Chair: Raviv Raich (Oregon State University, USA)
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SAM-P6: Compressive and Physics-Based Methods

Room: Poster Area 10
Chair: Lee Swindlehurst (University of California at Irvine, USA)

SAM-P6.1 On the estimation of Grid Offsets in CS-based Direction-of-Arrival Estimation 6776
Mohamed Ibrahim (Technische Universität Ilmenau, Germany); Florian Roemer (Ilmenau University of Technology, Germany); Roman Alieiev (Ilmenau University of Technology, Germany); Giovanni Del Galdo (Fraunhofer Institute for Integrated Circuits IIS, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany)

SAM-P6.2 An efficient sub-nyquist receiver architecture for spectrum blind reconstruction and direction of arrival estimation 6781
Achanna Anil Kumar (Temasek Laboratores@NTU, Singapore); Sirajudeen Gulam Razul (Nanyang Technological University, Singapore); Chong Meng Samson See (TL@NTU, Singapore)

SAM-P6.3 Accurate Reconstruction Of Rain Field Maps From Commercial Microwave Networks Using Sparse Field Modeling 6786
Yoav Liberman (Tel-Aviv University, Israel); Hagit Messer (Tel-Aviv University, Israel)

SAM-P6.4 Fast and Stable Recovery of Approximately Low Multilinear Rank Tensors From Multi-Way Compressive Measurements 6790
Cesar Federico Caiafa (Instituto Argentino de Radioastronomia - CONICET & University of Buenos Aires, Argentina); Andrzej S Cichocki (RIKEN BSI, Laboratory for Advanced Brain Signal Processing, Japan)

SAM-P6.5 Improved Compressed Sensing Radar by Fusion with Matched Filtering 6795
Justin Dauwels (Nanyang Technological University, Singapore); Srinivasan Kannan (Nanyang Technological University, Singapore)

SAM-P6.6 Optimal Trajectory Design For a DToA Based Multi-Robot Angle of Arrival Estimation System for Rescue Operations 6800
Daniel Bonilla Licea (University of Leeds, United Kingdom); Desmond McLernon (The University of Leeds, United Kingdom); Mounir Ghogho (University of Leeds, United Kingdom)

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Florent Le Courtois (ENSTA Bretagne & LAB STICC, France); Julien Bonnel (ENSTA Bretagne, France)

SAM-P6.8 Design of a robust open spherical microphone array 6810
Gilles Chardon (Austrian Academy of Sciences, Austria); Wolfgang Kreuzer (Austrian Academy of Sciences, Austria); Markus Noisternig (IRCAM & University of Music and Performing Arts Graz, France)

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Cagdas Tuna (University of Illinois at Urbana-Champaign, USA); Douglas L. Jones (University of Illinois at Urbana-Champaign, USA); Farzad Kamalabadi (University of Illinois at Urbana-Champaign, USA)

SAM-P6.10 Outlier removal for improved source estimation in atmospheric inverse problems 6820
Marta Martinez-Camara (Ecole Polytechnique Federal de Lausanne, Switzerland); Andreas Stohl (Norwegian Institute for Air Research, Norway); Martin Vetterli (EPFL, Switzerland)

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Juri Ranieri (EPFL, Switzerland); Martin Vetterli (EPFL, Switzerland)

SAM-P6.12 Physics-Based Sea Clutter Model for Improved Detection of Low Radar Cross-Section Targets 6830
Brian O'Donnell (Arizona State University, USA); Richard LeBaron (Arizona State University, USA); Rodolfo Diaz (Arizona State University, USA); Antonia Papandreou-Suppappola (Arizona State University, USA)

SAM-P6.13 Source counting in speech mixtures using a variational EM approach for complex Watson mixture models 6834
Lukas Drude (Universität Paderborn, Germany); Aleksej Chinaev (University of Paderborn, Germany); Dang Hai Tran Vu (University of Paderborn, Germany); Reinhold Haeb-Umbach (University of Paderborn, Germany)

SAM-P6.14 Sparsity-Aware Sensor Selection: Centralized and Distributed Algorithms N/A
Hadi Jamali-Rad (Delft University of Technology (TU Delft), The Netherlands); Andrea Simonetto (Delft University of Technology, The Netherlands); Geert Leus (Delft University of Technology, The Netherlands)

10:30 AM - 11:00 AM

Coffee break

11:00 AM - 1:00 PM

SLTC-L11: Deep Learning in Speech Recognition

Room: Cavaniglia
Chairs: Li Deng (Microsoft Research, USA), Tara Sainath (IBM TJ Watson Research Center, USA)

Improvements to Filterbank and Delta Learning Within A Deep Neural Network Framework 6839
Tara Sainath (IBM TJ Watson Research Center, USA); Brian Kingsbury (IBM T. J. Watson Research Center, USA); Abdel-rahman Mohamed (University of Toronto, Canada); George Saon (IBM T. J. Watson Research Center, USA); Bhuvana Ramabhadran (IBM T. J. Watson Research Center, USA)

Sequence Classification Using the High-Level Features Extracted from Deep Neural Networks 6844
Li Deng (Microsoft Research, USA); Jianshu Chen (University of California, Los Angeles, USA)

Improving deep neural networks for LVCSR using dropout and shrinking structure 6849
Shiliang Zhang (University of Science and Technology of China, P.R. China); Yebo Bao (University of Science and Technology of China, P.R. China); Pan Zhou (University of Science and Technology of China, P.R. China); Hui Jiang

(York University, Canada); Li-Rong Dai (University of Science and Technology of China, P.R. China)

Exploring One Pass Learning For Deep Neural Network Training With Averaged Stochastic Gradient Descent 6854
Zhao You (Institute of Automation, Chinese Academy of Sciences, P.R. China); Xiaorui Wang (Institute of Automation, Chinese Academy of Sciences, P.R. China); Bo Xu (Institute of Automation, Chinese Academy of Sciences, P.R. China)

Accounting for the Residual Uncertainty of Multi-Layer Perceptron based Features 6859
Ramon Fernandez Astudillo (INESC-ID-Lisboa, Portugal); Alberto Abad (INESC-ID/IST, Portugal); Isabel Trancoso (I.S.T. - Technical U. Lisbon / I.N.E.S.C. - I.D., Portugal)

Unsupervised Domain Adaptation for Deep Neural Network Based Voice Activity Detection 6864
Zhang Xiao-Lei (Tsinghua University, P.R. China)

IVMSP-L5: Image Indexing and Retrieval

Room: Basilica
Chair: Constantine Kotropoulos (Aristotle University of Thessaloniki, Greece)

11:00 Low-cost multi-camera object matching 6869
Syed Fahad Tahir (Queen Mary University of London, United Kingdom); Andrea Cavallaro (Queen Mary, University of London, United Kingdom)

11:20 Extended-Bag-of-Features for Translation, Rotation, and Scale-Invariant Image Retrieval 6874
Chia-Yin Tsai (Carnegie Mellon University, USA); Ting-Chu Lin (Columbia University, USA); Chia-Po Wei (Academia Sinica, Taiwan); Yu-Chiang Frank Wang (Academia Sinica, Taiwan)

11:40 Image Retrieval Based on Spatial Context with Relaxed Gabriel Graph Pyramid 6879
Xiaomeng Wu (NTT Communication Science Laboratories, Japan); Kunio Kashino (Nippon Telegraph and Telephone Corporation, Japan)

12:00 Beyond "Project and Sign" for Cosine Estimation with Binary Codes 6884
Raghavendran Balu (INRIA, France); Teddy Furon (INRIA Rennes - Bretagne Atlantique, France); Hervé Jégou (INRIA, France)

12:20 Visual Reranking with improved image graph 6889
Ziqiong Liu (Tsinghua University, P.R. China); Shengjin Wang (Tsinghua University, P.R. China); Liang Zheng (Tsinghua University, P.R. China); Qi Tian (University of Texas at San Antonio, USA)

12:40 Simultaneous image tagging and geo-location prediction within hypergraph ranking framework 6894
Konstantinos Pliakos (Aristotle University of Thessaloniki, Greece); Constantine Kotropoulos (Aristotle University of Thessaloniki, Greece)

BISP-L3: Medical image reconstruction II

Room: Polveriera
Chairs: Mathews Jacob (University of Iowa, USA), Yves Wiaux (Heriot Watt University, United Kingdom)

11:00 Compressed Quantitative MRI: Bloch Response Recovery through Iterated Projection 6899
Mike Davies (University of Edinburgh, United Kingdom); Gilles Puy (INRIA, Switzerland); Pierre Vandergheynst (EPFL, Switzerland); Yves Wiaux (Heriot Watt University, United Kingdom)

11:20 Joint recovery of under sampled signals on a manifold: application to free breathing cardiac MRI 6904
Sunrita Poddar (University of Iowa, USA); Sajan Lingala (University of Iowa, USA); Mathews Jacob (University of Iowa, USA)

11:40 Model-Based Iterative Reconstruction for Synchrotron X-Ray Tomography 6909
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12:40 Improved MRI Reconstruction via Non-Convex Elastic Net 6924
Angshul Majumdar (Indraprastha Institute Of Information Technology-Delhi & University of British Columbia, India); Rabab Ward (University of British Columbia, Canada)

AASP-L5: Recent Topics on Audio Coding

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Chairs: Akihiko K. Sugiyama (NEC Corporation, Japan), Vinay Melkote (Dolby Laboratories, USA)

11:00 Nonlinear Estimation of Missing ΔLSF Parameters by a Mixture of Dirichlet Distributions 6929
Zhanyu Ma (BUPT-Beijing University of Posts and Telecommunications, P.R. China); Rainer Martin (Ruhr-University Bochum, Germany); Jun Guo (BUPT, P.R. China); Honggang Zhang (Beijing University of Posts and Telecommunications, P.R. China)

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Huang Haibin (Institute for Infocomm Research, Singapore); Haiyan Shu (Institute for Infocomm Research, Singapore); Rongshan Yu (Institute for Infocomm Research, Singapore)

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Sascha Disch (Fraunhofer IIS, Germany); Benjamin Schubert (Fraunhofer IIS, Germany)

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Room: Teatrino

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Sander Dieleman (Ghent University, Belgium); Benjamin Schrauwen (Ghent University, Belgium)

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Eric Humphrey (New York University, USA); Juan Bello (New York University, USA)

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Jan Schlüter (Autrian Research Institute for Artificial Intelligence (OFAI), Austria); Sebastian Böck (Johannes Kepler University, Austria)

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SPCOM-L6: Network Perspectives

Room: Volta
Chair: Timothy N. Davidson (McMaster University, Canada)

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Ran Cai (The Chinese University of Hong Kong, Hong Kong); Wei Zhang (The University of New South Wales, Australia); Pc Ching (The Chinese University of Hong Kong, Hong Kong); Timothy N. Davidson (McMaster University, Canada); Jian-Kang Zhang (McMaster University, Canada)

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Salvatore Talarico (West Virginia University, USA); Matthew Valenti (West Virginia University, USA)

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Room: Poster Area 1
Chair: Israel Cohen (Technion, Israel)

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Room: Poster Area 5

Marjan Zandi (University of Ontario Institute of Technology, Canada); Min Dong (University of Ontario Institute of Technology, Canada); Ali Grami (University of Ontario Institute of Technology, Canada)

IVMSP-P12: Video coding

Room: Poster Area 6
Chair: Beatrice Pesquet-Popescu (Télécom ParisTech, France)

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IFS-P3: Multimedia Encryption, Secure Computations, and Data Hiding

Room: Poster Area 7
Chair: Sen-ching Samson Cheung (University of Kentucky, USA)

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AASP-P10: Microphone Array Processing II, Music Analysis and Synthesis II

Room: Poster Area 8
Chair: Augusto Sarti (Politecnico di Milano, Italy)

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AASP-P10.12 A Novel Cepstral Representation For Timbre Modeling Of Sound Sources In Polyphonic Mixtures 7495
Zhiyao Duan (University of Rochester, USA); Bryan Pardo (Northwestern University, USA); Laurent Daudet (Université Paris Diderot, France)

DISPS-P2: Implementations of DSP Systems and Applications

Room: Poster Area 9
Chair: Woon Seng Gan (Nanyang Technological University, Singapore)
DISPS-P2.1 IEEE 802.11ac MIMO Transmitter Baseband Processing on Customized VLIW Processor 7500
Mona Aghababaeetafreshi (Tampere University of Technology, Finland); Lasse Lehtonen (Tampere University of Technology, Finland); Maliheh Soleimani (Tampere University of Technology, Finland); Mikko Valkama (Tampere University of Technology, Finland); Jarmo Takala (Tampere University of Technology, Finland)
DISPS-P2.2 Scalable, Efficient ASICs for the Square Kilometre Array: from A/D Conversion to Central Correlation 7505
Martin Schmatz (IBM Research - Zurich, Switzerland); Rik Jongerius (IBM Research, The Netherlands); Gero Dittmann (IBM Research, Zurich Research Laboratory, Switzerland); Andreea Anghel (IBM Research - Zurich & Swiss Federal Institute of Technology Zurich (ETHZ), Switzerland); Ton Engbersen (IBM Zurich Research Laboratory, Switzerland); Jan van Lunteren (IBM Research, Switzerland); Peter Buchmann (IBM Research - Zurich, Switzerland)
DISPS-P2.3 x1000 Real-time Phoneme Recognition VLSI Using Feed-forward Deep Neural Networks 7510
Jonghong Kim (Seoul National University, Korea); Kyuyeon Hwang (Seoul National University, Korea); Wonyong Sung (Seoul National University, Korea)
DISPS-P2.4 A High Throughput LDPC Decoder using a Mid-range GPU 7515
Wen Xie (Beijing University of Posts and Telecommunications, P.R. China); XianJun Jiao (Nokia & China Academy of Space Technology, P.R. China); Pekka Jääskeläinen (Tampere University of Technology, Finland); Heikki Kultala (Tampere University of Technology, Finland); Canfeng Chen (Nokia Research Center, P.R. China); Heikki Berg (Nokia, Finland); Zhisong Bie (Beijing University of Posts and Telecommunications, P.R. China)
DISPS-P2.5 Using the GPU for fast symmetry-based dense stereo matching in high resolution images 7520
Vasco Mota (Institute of Systems and Robotics, Portugal); Gabriel Falcao (Instituto de Telecomunicações, University of Coimbra, Portugal); Michel Antunes (Institute of Systems and Robotics, Portugal); Joao Barreto (Institute of Systems and Robotics, University of Coimbra, Portugal); Urbano Nunes (University of Coimbra, Portugal)
DISPS-P2.6 Barometric and GPS Altitude Sensor Fusion 7525
Vadim Zaliva (Carnegie Mellon University, USA); Franz Franchetti (Carnegie Mellon University, USA)
DISPS-P2.7 Boosted Multi-class Object Detection with Parallel Hardware Implementation for Real-Time Applications 7530
Ching-Te Chiu (National Tsing Hua University, Taiwan); Yao-Tsung Yang (National Tsing Hua University, Taiwan)
DISPS-P2.8 GPU based implementation of multichannel adaptive room equalization 7535
Jorge Lorente (Universitat Politècnica de València, Spain); Miguel Ferrer (Universidad Politecnica de Valencia, Spain); María de Diego (Universitat Politècnica De València, Spain); Alberto Gonzalez (Universidad Politecnica de Valencia, Spain)
DISPS-P2.9 Australian SKA Pathfinder: Digital Signal Processing Implementation and Early Engineering Test Array Results 7540
John Tuthill (Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia); Timothy Bateman (CSIRO, Australia); Andrew Brown (CSIRO, Australia); John Bunton (CSIRO ICT Centre, Australia); Grant Hampson (CSIRO, Australia); Aidan Hotan (CSIRO, Australia); Stephan Neuhold (CSIRO, Australia); John Reynolds (CSIRO, Australia); Timothy Shimwell (CSIRO, Australia); Maxim Voronkov (CSIRO, Australia)
DISPS-P2.10 Multi-core software architecture for the scalable HEVC decoder 7545
Wassim Hamidouche (IETR/INSA de Rennes, France); Mickael Raulet (IETR-INSA Rennes, France); Olivier Deforges (IETR / INSA Rennes, France)
DISPS-P2.11 Fast And Efficient Real-Time GPU Based Implementation of Wave Field Synthesis 7550
Rishabh Ranjan (Nanyang Technological University & DSP LAB, Singapore); Woon Seng Gan (Nanyang Technological University, Singapore)
DISPS-P2.12 Fast Software Polar Decoders 7555
Pascal Giard (McGill University, Canada); Gabi Sarkis (McGill University, Canada); Claude Thibeault (Ecole de Technologie Superieure, Canada); Warren Gross (McGill University, Canada)
DISPS-P2.13 DSP Implementation of SQRT(M)-Best Rotated QAM Soft-Demapper 7560
Peng Xue (Samsung Electronics, Korea); Kitaek Bae (Samsung Advanced Institute of Technology, Korea); Kyeongyeon Kim (Samsung Advanced Institute of Technology, Korea); Navneet Basutkar (Samsung Advanced Institute of Technology, Korea); Ho Yang (Samsung Electronics, Korea)
DISPS-P2.14 A fast architecture for finding maximum (or minimum) values in a set 7565
Andrea Biroli (Politecnico di Torino, Italy); Juanchi Wang (Politecnico di Torino, Italy)

SAM-P7: Sensor and Relay Networks

Room: Poster Area 10
Chair: Shahram ShahbazPanahi (University of Ontario Institute of Technology, Canada)
SAM-P7.1 A Modified broadcast strategy for distributed signal estimation in a wireless sensor network with a tree topology 7570
Joseph Szurley (KU Leuven, Belgium); Alexander Bertrand (KU Leuven & iMinds Future Health Department, Belgium); Marc Moonen (KU Leuven, Belgium); Ingrid Moerman (Ghent University - IBBT, Belgium)

SAM-P7.2 A gossiping approach to sampling clock synchronization in wireless acoustic sensor networks 7575
Joerg Schmalenstroeer (University of Paderborn, Germany); Patrick Jebramcik (University of Paderborn, Germany); Reinhold Haeb-Umbach (University of Paderborn, Germany)
SAM-P7.3 Distributed Total Least Squares Estimation over Networks 7580
Roberto López-Valcarce (Universidad de Vigo, Spain); Silvana Silva Pereira (Universitat Politècnica de Catalunya - Barcelona Tech, Spain); Alba Pagès-Zamora (Technical University of Catalonia & UPC, Spain)
SAM-P7.4 Performance-Energy Tradeoffs in Cutset Wireless Sensor Networks 7585
Matthew A Prelee (University of Michigan, USA); David L Neuhoff (University of Michigan, USA)
SAM-P7.5 Optimal Spectrum Leasing and Network Beamforming for Two-Way Relay Networks 7590
Adnan Gavili (University pf Ontario Institute of Technology, Canada); Shahram ShahbazPanahi (University of Ontario Institute of Technology, Canada)
SAM-P7.6 Multi-antenna Relay Network Beamforming Design for Multiuser Peer-to-Peer Communications 7594
Jiangwei Chen (University of Ontario Institute of Technology, Canada); Min Dong (University of Ontario Institute of Technology, Canada)
SAM-P7.7 Filter-and-forward relay beamforming using output power minimization 7599
Tao Wang (Nanyang Technological University, Singapore); Meng Hwa Er (Nanyang Technological University, Singapore); Boon Poh Ng (Nanyang technological university, Singapore)
SAM-P7.8 SINR balancing for non-regenerative two-way relay networks with interference neutralization 7604
Jianshu Zhang (Ilmenau University of Technology, Germany); Zuleita Ka Ming Ho (Samsung Electronics, Korea); Eduard Jorswieck (TU Dresden, Germany); Martin Haardt (Ilmenau University of Technology, Germany)
SAM-P7.9 Reduced Order Distributed Particle Filter for Electric Power Grids 7609
Amir Asif (York University, Canada); Arash Mohammadi (York University, Canada); Shivam Saxena (York University, Canada)
SAM-P7.10 Sensor Fault Detection by Sparsity Optimization 7614
Li Bingxuan (Nanyang Technological University, Singapore); Hang Yu (Nanyang Technological University, Singapore); Justin Dauwels (Nanyang Technological University, Singapore); Kay Soon Low (Nanyang Technological University, Singapore)
SAM-P7.11 How Many Bits from How Many Sensors? A Trade-off in Distributed Nearest-Neighbor Learning 7619
Stefano Marano (University of Salerno, Italy); Vincenzo Matta (University of Salerno, Italy); Peter Willett (University of Connecticut, USA)
SAM-P7.12 Bayesian Design of Decentralized Hypothesis Testing Under Communication Constraints 7624
Alla Tarighati (KTH Royal Institute of Technology, Sweden); Joakim Jaldén (KTH Royal Institute of Technology, Sweden)
SAM-P7.13 Generalized Quadratically Constrained Quadratic Programming for Signal Processing 7629
Arash Khabbazibasmenj (Western University, Canada); Sergiy A. Vorobyov (Aalto University & University of Alberta on leave, Finland)

1:00 PM - 2:45 PM

Lunch Time

2:45 PM - 3:45 PM

PT4: Plenary Talk: Synchronization and detectability in nonlinear networks and biology (Room Cavaniglia)

3:45 PM - 4:15 PM

Coffee break

4:15 PM - 6:15 PM

SLTC-L12: Neural network ASR

Room: Cavaniglia
Chairs: Daniel Povey (Johns Hopkins University, USA), Frank Seide (Microsoft Research Asia, P.R. China)
4:15 An auto-encoder based approach to unsupervised learning of subword units 7634
Leonardo Badino (Istituto Italiano di Tecnologia, Italy); Claudia Canevari (Istituto Italiano di Tecnologia, Italy); Luciano Fadiga (Istituto Italiano di Tecnologia, Italy); Giorgio Metta (Italian Institute of Technology (IIT), Italy)
4:35 Multilingual Deep Neural Network Based Acoustic Modeling For Rapid Language Adaptation 7639
Ngoc Thang Vu (Karlsruhe Institute of Technology, Germany); David Imseng (Idiap Research Institute, Switzerland); Daniel Povey (Johns Hopkins University, USA); Petr Motlicek (IDIAP Research Institute, Switzerland); Tanja Schultz (Karlsruher Institut fur Technologie, Germany); Hervé Bourlard (Idiap Research Institute, Switzerland)
4:55 Fine context, low-rank, softplus deep neural networks for mobile speech recognition 7644
Andrew Senior (Google Inc., USA); Xin Lei (Google Inc., USA)
5:15 Investigation of Maxout Networks For Speech Recognition 7649
Pawel Swietojanski (The University of Edinburgh, United Kingdom); Jinyu Li (Microsoft Corporation, USA); Jui-Ting Huang (Microsoft Corporation, USA)
5:35 Adaptation of Multilingual Stacked Bottle-Neck Neural Network Structure for New Language 7654

František Grézl (Brno University of Technology, Faculty of Information Technology, Czech Republic); Martin Karafiat (BUT Speech@FIT, Czech Republic); Karel Vesely (Brno University of Technology, Faculty of Information Technology, Czech Republic)

5:55 On Modeling Context-dependent Clustered States: Comparing HMM/GMM, Hybrid HMM/ANN and KL-HMM Approaches 7659

Marzieh Razavi (EPFL & Idiap Research Institute, Switzerland); Ramya Rasipuram (EPFL, Switzerland); Mathew Magimai Doss (Idiap Research Institute, Switzerland)

SPTM-L9: Sparsity-Aware Learning

Room: Basilica

Chairs: Mario A. T. Figueiredo (Instituto Superior Técnico, Portugal), Georgios B. Giannakis (University of Minnesota, USA)

4:15 Sparse Dictionary Learning from 1-bit Data 7664

Jarvis D. Haupt (University of Minnesota, USA); Nikolaos D Sidiropoulos (University of Minnesota, USA); Georgios B. Giannakis (University of Minnesota, USA)

4:35 Estimation of Simultaneously Structured Covariance Matrices from Quadratic Measurements 7669

Yuxin Chen (Stanford University, USA); Yuejie Chi (Ohio State University, USA); Andrea Goldsmith (Stanford University, USA)

4:55 Robust Binary Fused Compressive Sensing using Adaptive Outlier Pursuit 7674

Xiangrong Zeng (Instituto de Telecomunicações, Instituto Superior Técnico, Portugal); Mario A. T. Figueiredo (Instituto Superior Técnico, Portugal)

5:15 Adaptive variational sparse Bayesian estimation 7679

Konstantinos E. Themelis (National Observatory of Athens, Greece); Athanasios A. Rontogiannis (National Observatory of Athens, Greece); Konstantinos Koutroumbas (National Observatory of Athens, Greece)

5:35 Kernel Selection for Power Market Inference via Block Successive Upper Bound Minimization 7684

Vassilis Kekatos (University of Minnesota & University of Patras, USA); Yu Zhang (University of Minnesota, USA); Georgios B. Giannakis (University of Minnesota, USA)

5:55 A block coordinate descent method of multipliers: Convergence Analysis and Applicaitons 7689

Mingyi Hong (University of Minnesota, USA); Tsung-Hui Chang (National Taiwan University of Science and Technology, Taiwan); Xiangfeng Wang (Nanjing University, P.R. China); Meisam Razaviyayn (University of Minnesota, USA); Shiqian Ma (The Chinese University of Hong Kong, Hong Kong); Zhi-Quan Luo (University of Minnesota, USA)

SS13: Non-native Speech Processing

Room: Polveriera

Chairs: Ricardo Gutierrez-Osuna (Texas A&M University, USA), Michael Johnson (Marquette University, USA)

4:15 Accent conversion through cross-speaker articulatory synthesis 7694

Sandesh Aryal (Texas A&M University, USA); Ricardo Gutierrez-Osuna (Texas A&M University, USA)

4:35 Accent Rating by Native and Non-native Listeners 7699

Mirjam Wester (University of Edinburgh, United Kingdom); Cassie Mayo (University of Edinburgh, United Kingdom)

4:55 Lexical Stress Classification for Language Learning Using Spectral and Segmental Features 7704

Luciana Ferrer (SRI International, USA); Harry Bratt (SRI International, USA); Colleen Richey (SRI International, USA); Horacio Franco (SRI International, USA); Victor Abrash (SRI, USA); Kristin Precoda (SRI International, USA)

5:15 Adaptive and Discriminative Modeling for Improved Mispronunciation Detection 7709

Horacio Franco (SRI International, USA); Luciana Ferrer (SRI International, USA); Harry Bratt (SRI International, USA)

5:35 Phonological Modeling of Mispronunciation Gradations in L2 English Speech of L1 Chinese Learners 7714

Hao Wang (The Chinese University of Hong Kong, P.R. China); Xiaojun Qian (The Chinese University of Hong Kong, P.R. China); Helen Meng (The Chinese University of Hong Kong, Hong Kong)

5:55 The Electromagnetic Articulography Mandarin Accented English (EMA-MAE) Corpus of Acoustic and 3D Articulatory Kinematic Data 7719

An Ji (Marquette University, USA); Jeffrey Berry (Marquette, USA); Michael Johnson (Marquette University, USA)

SAM-L4: SAM for Wireless Communications

Room: Scherma

Chairs: Martin Haardt (Ilmenau University of Technology, Germany), Sergiy A. Vorobyov (Aalto University & University of Alberta on leave, Finland)

SAM-L4.1 4:15 Multiuser downlink beamforming with interference cancellation using a SDP-Based Branch-and-Bound Algorithm 7724

Anne Philipp (Technische Universität Darmstadt, Germany); Stefan Ulbrich (Technische Universität Darmstadt, Germany); Yong Cheng (Technische Universität Darmstadt, Germany); Marius Pesavento (Technische Universität Darmstadt, Germany)

SAM-L4.2 4:35 Performance Analysis of Max-SINR Algorithm Under CSI Mismatch 7729

S. Morteza Razavi (The University of Edinburgh, United Kingdom); Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom)

SAM-L4.3 4:55 Optimal Decision Threshold for Eigenvalue-Based Spectrum Sensing Techniques 7734

Yibo He (The University of Edinburgh, United Kingdom); Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom); Jiang Xue (The University of Edinburgh & IDCOM, United Kingdom); Ebtihal H. G. Yousif

(University of Edinburgh, United Kingdom); Mathini Sellathurai (Heriot-Watt University, United Kingdom)

SAM-L4.4 5:15 Optimal MIMO Broadcasting over Time-Varying Wireless Channels for Energy Harvesting Transmitter with Non-Ideal Circuit Power 7739
Zheng Nan (Fudan University, P.R. China); Tianyi Chen (Fudan University, P.R. China); Xin Wang (Fudan University, P.R. China)

SAM-L4.5 5:35 Optimum Discrete Single Group Multicast Beamforming 7744
Özlem Tuğfe Demir (Middle East Technical University, Turkey); T. Engin Tuncer (Middle East Technical University, Turkey)

SAM-L4.6 5:55 Blind Spectra Separation and Direction Finding for Cognitive Radio Using Temporal Correlation-domain ESPRIT 7749
Xiao Fu (The Chinese University of Hong Kong, Hong Kong); Nikolaos D Sidiropoulos (University of Minnesota, USA); Wing-Kin Ma (The Chinese University of Hong Kong, Hong Kong); John Tranter (University of Minnesota, USA)

SPCOM-L7: Power Systems Management and Smart Grid

Room: Teatrino
Chair: Timothy N. Davidson (McMaster University, Canada)

4:15 Joint Day-Ahead Power Procurement and Load Scheduling Using Stochastic Alternating Direction Method of Multipliers 7754
Xiangfeng Wang (Nanjing University, P.R. China); Mingyi Hong (University of Minnesota, USA); Tsung-Hui Chang (National Taiwan University of Science and Technology, Taiwan); Meisam Razaviyayn (University of Minnesota, USA); Zhi-Quan Luo (University of Minnesota, USA)

4:35 Non-stationary Demand Side Management Method for Smart Grids 7759
Linqi Song (University of California, Los Angeles, USA); Yuanzhang Xiao (University of California, Los Angeles, USA); Mihaela van der Schaar (University of California, Los Angeles (UCLA), USA)

4:55 Asynchronous Alternating Direction Method of Multipliers Applied to the Direct-Current Optimal Power Flow Problem 7764
Azary Abboud (Supelec, France); Romain Couillet (Supélec, France); Mérouane Debbah (Supelec, France); Houria Siguerdidjane (Supelec, France)

5:15 An Off-line Optimization Approach for Online Energy Storage Management in Microgrid System 7769
Katayoun Rahbar (National University of Singapore (NUS), Singapore); Jie Xu (National University of Singapore, Singapore); Rui Zhang (National University of Singapore, Singapore)

5:35 Intertemporal Trading Economy Model for Smart Grid Household Energy Consumption 7774
Jayaprakash Rajasekharan (Aalto University, Finland); Visa Koivunen (Aalto University, Finland)

5:55 Integrating Energy Storage into the Smart Grid: A Prospect Theoretic Approach 7779
Yunpeng Wang (University of Miami, USA); Walid Saad (University of Miami, USA); Narayan Mandayam (WINLAB, Rutgers University, USA); H. Vincent Poor (Princeton University, USA)

IVMSP-L6: Image Formation

Room: Volta
Chair: Enrico Magli (Politecnico di Torino, Italy)

4:15 Non-uniform sampling and Gaussian process regression in transport of intensity phase imaging 7784
Jingshan Zhong (Nanyang Technological University & University of California, Berkeley, Singapore); Rene Claus (University of California, Berkeley, USA); Justin Dauwels (Nanyang Technological University, Singapore); Lei Tian (University of California, Berkeley, USA); Laura Waller (University of California, Berkeley, USA)

4:35 Compressive spectral imaging with colored-patterned detectors 7789
Claudia Correa-Pugliese (University of Delaware, USA); Henry Arguello Fuentes (Universidad Industrial de Santander, Colombia); Gonzalo Arce (University of Delaware, USA)

4:55 Compressive Hyperspectral Imaging Using Progressive Total Variation 7794
Kamdem (University of Siena, Italy); Giulio Coluccia (Politecnico di Torino, Italy); Alessandro Barducci (IFAC-CNR Firenze, Italy); Mauro Barni (University of Siena, Italy); Enrico Magli (Politecnico di Torino, Italy)

5:15 Compressive Spectral Imaging based on Colored Coded Apertures 7799
Hoover Rueda (University of Delaware, USA); Henry Arguello Fuentes (Universidad Industrial de Santander, Colombia); Gonzalo Arce (University of Delaware, USA)

5:35 Enhanced Wall Clutter Mitigation For Compressed Through-the-Wall Radar Imaging using Joint Bayesian Sparse Signal Recovery 7804
Van Ha Tang (University of Wollongong & School of Electrical, Computer and Telecommunications Engineering, Australia); Abdesselam Bouzerdoum (University of Wollongong, Australia); Son Lam Phung (University of Wollongong, Australia); Fok Hing Chi Tivive (University of Wollongong, Australia)

5:55 An unmixing-based method for the analysis of thermal hyperspectral images 7809
Manuel Cubero-Castan (GIPSA-Lab & ONERA, France); Jocelyn Chanussot (Grenoble Institute of Technology, France); Xavier Briottet (ONERA, France); Michal Shimoni (Royal Military Academy, Belgium); Véronique Achard (ONERA, France)

SLTC-P21: Spoken Term Detection II

Room: Poster Area 1
Chair: Julia Hirschberg (Columbia University in the City of New York, USA)

SLTC-P21.1 Unsupervised Spoken Term Detection with Spoken Queries by Multi-level Acoustic Patterns with Varying Model Granularity 7814

SLTC-P22: Voice Conversion

Room: Poster Area 2
Chair: Alan Black (CMU, USA)

Kohei Sawada (Gifu University, Japan); Masanori Takehara (Gifu University, Japan); Satoshi Tamura (Gifu University, Japan); Satoru Hayamizu (Gifu University, Japan)

SLTC-P22.6 Regression approaches to perceptual age control in singing voice conversion 7904
Kazuhiro Kobayashi (Nara Institute of Science and Technology, Japan); Tomoki Toda (NAIST, Japan); Tomoyasu Nakano (National Institute of Advanced Industrial Science and Technology (AIST), Japan); Masataka Goto (National Institute of Advanced Industrial Science and Technology (AIST), Japan); Graham Neubig (Graduate School of Information Science, Nara Institute of Science and Technology, Japan); Sakriani Sakti (NAIST, Japan); Satoshi Nakamura (Nara Institute of Science and Technology, Japan)

SLTC-P22.7 Non-Parallel Voice Conversion Using Joint Optimization of Alignment by Temporal Context and Spectral Distortion 7909
Hadas Benisty (Technion, Israel); David Malah (Technion - Israel Institute of Technology, Israel); Koby Crammer (Technion, Israel)

SLTC-P22.8 Improving voice quality of HMM-based speech synthesis using voice conversion method 7914
Yishan Jiao (Beijing Institute of Technology, P.R. China); Xiang Xie (Beijing Institute of Technology, P.R. China); Xingyu Na (Beijing Institute of Technology, P.R. China); Ming Tu (Beijing Institute of Technology, P.R. China)

SLTC-P22.9 Guslar: a framework for automated singing voice correction 7919
Elias Azarov (Belarusian State University of Informatics and Radioelectronics, Belarus); Maxim Vashkevich (Belarusian State University of Informatics and Radioelectronics, Belarus); Alexander Petrovsky (Bialystok Technical University, Poland)

SLTC-P22.10 Pitch Modifications of speech based on an Adaptive Harmonic Model 7924
George Kafentzis (Orange Labs, France); Gilles Degottex (University of Crete / FORTH & FORTH, Greece); Olivier Rosec (Voxygen S.A., France); Yannis Stylianou (University of Crete, Greece)

SLTC-P22.11 Improvement of Probabilistic Acoustic Tube Model for speech decomposition 7929
Yang Zhang (University of Illinois, Urbana-Champaign, USA); Zhijian Ou (Tsinghua University, P.R. China); Mark Hasegawa-Johnson (University of Illinois, USA)

SLTC-P22.12 Enhancing Frequency Shifted Speech Signals in Single Side-band Communication N/A
Sriram Ganapathy (IBM Watson Research Center, USA); Jason Pelecanos (IBM Research, USA)

SPTM-P17: Nonlinear Signal Processing

Room: Poster Area 3
Chair: V. John Mathews (University of Utah, USA)

SPTM-P17.1 A novel class of BIBO stable recursive nonlinear filters 7934
Giovanni L. Sicuranza (University of Trieste, Italy); Alberto Carini (University of Urbino, Italy)

SPTM-P17.2 Introducing Legendre Nonlinear Filters 7939
Alberto Carini (University of Urbino, Italy); Stefania Cecchi (Università Politecnica delle Marche, Italy); Michele Gasparini (Università Politecnica delle Marche, Italy); Giovanni L. Sicuranza (University of Trieste, Italy)

SPTM-P17.3 Sparse Representations in Nested Non-Linear Models 7944
Angélique Drémeau (ESPCI ParisTech, France); Patrick Heas (IRISA, France); Cédric Herzet (INRIA Rennes, France)

SPTM-P17.4 Detection of Nonlinear Mixtures Using Gaussian Processes: Application to Hyperspectral Imaging 7949
Tales Imbiriba (Federal University of Santa Catarina, Brazil); Jose Carlos Moreira Bermudez (Federal University of Santa Catarina, Brazil); Jean-Yves Tourneret (University of Toulouse & IRIT/ENSEEIHT/TéSA, France); Cédric Richard (Université de Nice Sophia-Antipolis, France)

SPTM-P17.5 Nonlinear unmixing of hyperspectral images using a semiparametric model and spatial regularization 7954
Jie Chen (Université de Nice Sophia-Antipolis, France); Cédric Richard (Université de Nice Sophia-Antipolis, France); Alfred Hero III (University of Michigan, USA)

SPTM-P17.6 Perfect periodic sequences for identification of even mirror Fourier nonlinear filters 7959
Alberto Carini (University of Urbino, Italy); Giovanni L. Sicuranza (University of Trieste, Italy)

SPTM-P17.7 A Robust Kernel Density Estimator Based Mean-Shift Algorithm 7964
Nevine Demitri (Darmstadt University of Technology, Germany); Abdelhak M Zoubir (Darmstadt University of Technology, Germany)

SPTM-P17.8 A particle filtering based kernel HMM predictor 7969
Felipe Tobar (Imperial College London, United Kingdom); Danilo Mandic (Imperial College, London, United Kingdom)

SPTM-P17.9 Subband Digital Predistorsion based on Indirect Learning Architecture 7974
Mazen Abi Hussein (ESIEE Paris, France); Olivier Venard (Université Paris-Est, ESIEE Paris, France)

SPTM-P17.10 Multi-modal filtering for non-linear estimation 7979
Sanket Kamthe (Technische Universität Darmstadt, Germany); Jan Peters (Technische Universität Darmstadt & Max-Planck Institute for Intelligent Systems, Germany); Marc Deisenroth (Imperial College London, United Kingdom)

SPTM-P18: Data Driven Methods

Room: Poster Area 4
Chair: Petar M. Djurić (Stony Brook University, USA)

SPTM-P18.1 Distributed Particle Filtering for Blind Equalization in Receiver Networks using Marginal Non-Parametric Approximations 7984
Claudio J. Bordin, Jr. (Universidade Federal do ABC, Brazil); Marcelo Bruno (ITA, Brazil)

SPTM-P18.2 Robust Bootstrap Methods with an Application to Geolocation in Harsh LOS/NLOS Environments 7988
Stefan Vlaski (University of California, Los Angeles, USA); Michael Muma (Darmstadt University of Technology, Germany); Abdelhak M Zoubir (Darmstadt University of Technology, Germany)
SPTM-P18.3 An Adaptive Likelihood Fusion Method using Dynamic Gaussian Model for Indoor Target Tracking 7993
Yubin Zhao (Freie Universität Berlin, Germany); Yuan Yang (Freie Universität Berlin, Germany); Marcel Kyas (Freie University Berlin, Germany)
SPTM-P18.4 Independent doubly adaptive rejection Metropolis sampling 7998
Luca Martino (University of Helsinki, Finland); Jesse Read (Universidad Carlos III de Madrid, Spain); David Luengo (Universidad Politecnica de Madrid (UPM), Spain)
SPTM-P18.5 Efficient Particle-Based Online Smoothing in General Hidden Markov Models 8003
Johan Westerborn (KTH Royal Institute of Technology, Sweden); Jimmy Olsson (Lund University, Sweden)
SPTM-P18.6 Multiple Transition Mode Multiple Target Track-Before-Detect With Partitioned Sampling 8008
Samuel Ebenezer (Arizona State University, USA); Antonia Papandreou-Suppappola (Arizona State University, USA)
SPTM-P18.7 Particle Filtering in High-Dimensional Systems with Gaussian Approximations 8013
Monica F. Bugallo (Stony Brook University, USA); Petar M. Djurić (Stony Brook University, USA)
SPTM-P18.8 An Experimental Implementation of a Particle-Based Dynamic Sensor Steering Method for Tracking and Searching for Space Objects 8018
Tyler Hobson (University of Queensland, Australia); Vaughan Clarkson (The University of Queensland, Australia)
SPTM-P18.9 A Poisson series approach to Bayesian Monte Carlo inference for skewed alpha-stable distributions 8023
Tatjana Lemke (Fraunhofer ITWM & University of Cambridge, Germany); Simon Godsill (University of Cambridge, United Kingdom)
SPTM-P18.10 Fast computation of the L1 principal component of real-valued data 8028
Sandipan Kundu (SUNY at Buffalo, USA); Panos P. Markopoulos (State University of New York at Buffalo, USA); Dimitris A. Pados (The State University of New York at Buffalo, USA)
SPTM-P18.11 Estimation of ARMA State Processes by Particle Filtering 8033
Iñigo Urteaga (Stony Brook University, USA); Petar M. Djurić (Stony Brook University, USA)
SPTM-P18.12 An Adaptive Population Importance Sampler 8038
Luca Martino (University of Helsinki, Finland); Víctor Elvira (University Carlos III of Madrid, Spain); David Luengo (Universidad Politecnica de Madrid, Spain); Jukka Corander (University of Helsinki, Finland)
SPTM-P18.13 Monte Carlo Limit Cycle Characterization 8043
David Luengo (Universidad Politecnica de Madrid (UPM), Spain); David Oses (Universidad Politecnica de Madrid, Spain); Luca Martino (University of Helsinki, Finland)
SPTM-P18.14 On The L4 Convergence of Particle Filters with General Importance Distributions 8048
Isambi Mbalawata (Lappeenranta University of Technology, Finland); Simo Särkkä (Aalto University, Finland)

SPCOM-P13: Multicarrier systems

Room: Poster Area 5
Chair: Paolo Banelli (University of Perugia, Italy)
SPCOM-P13.1 OFDM spectrum sculpting with Active Interference Cancellation: keeping spectral spurs at bay 8053
Jorge F. Schmidt (University of Vigo, Spain); Roberto López-Valcarce (Universidad de Vigo, Spain)
SPCOM-P13.2 Short Preamble-based Estimation of Highly Frequency Selective Channels in FBMC/OQAM 8058
Eleftherios Kofidis (University of Piraeus, Greece)
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