

Monday	Room L1	Room L2	Room L3	Room L4
9:00am - 10:30am	Tutorial 1 Nonconvex Optimization for High-Dimensional Signal Estimation: Spectral and Iterative Methods	Tutorial 2 Statistical Relational Artificial Intelligence for Unified Music Understanding and Creation	Tutorial 3 Advances in Massive MIMO Hybrid Beamforming: From Optimization to Learning	Tutorial 4 A Unified Framework for Underdetermined and Determined Blind Audio Source Separation
10:30pm - 11:00am	Coffee Break			
11:00am - 12:30pm	T1: Continued	T2: Continued	T3: Continued	T4: Continued
12:30pm - 13:30pm	Lunch Break			
1:30pm - 3:00pm	Tutorial 5 Four decades of array signal processing research: an optimization relaxation technique perspective	Tutorial 6 Four decades of array signal processing research: an optimization relaxation technique perspective	Tutorial 7 Adaptive Optimization Methods for Machine Learning and Signal Processing	
3:00pm - 3:30pm	Coffee Break			
3:30pm - 5:00pm	T5: Continued	T6: Continued	T7: Continued	



Program at a glance

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Tuesday	Room L1	Room L2	Room L3	Room L4	Room L5	Room P1	Room P2	Room P3
9:00am - 10:00am	Opening Ceremony							
10:00am - 11:00am	Keynote 1: Stephen McLaughlin Challenges in imaging and sensing in photon-starved regimes							
11:00am - 11:30am	Coffee Break							
11:30am - 13:30pm	ASMSP-L1 Detection and Classification of Acoustic Scenes and Events	TMTSP-L1 Robust Signal Processing	SiG-DML-L1 Interpretable Machine Learning	BISA-L1 Biomedical Signal Processing I	SS-L1 Signal processing in Network Physiology	SS-P1 Trends in Graph Signal Processing	VIP-P1 Video and Multimedia Coding	SPMuS-P1 Localization and Tracking
13:30pm - 3:30pm	ASMSP-L2 Modeling, Analysis and Synthesis of Acoustic Environments	TMTSP-L2 Sparsity-Aware Processing I	SPCN-L3 Baseband Signal Processing for Communications	BISA-L2 Biomedical Image Analysis	VIP-L1 Image Coding and Compression	BForSec-P1 Information Forensics and Security	SiG-DML-P1 Pattern Recognition and Classification	SS-P2 Bias in Biometrics
3:30pm - 4:00pm	Coffee Break							
4:00pm - 6:00pm	ASMSP-L3 Bioacoustics and Medical Acoustics	SS-L2 Learning over Graphs	SiG-DML-L2 Bayesian Learning and Signal Processing	SPCN-L2 Signal Processing for Wireless Networks	SPMuS-L1 Beamforming	ASMSP-P1 Deep Learning-based Acoustic Scene Analysis	BISA-P1 Biomedical Signal Processing II	TMTSP-P1 Signal Analysis, Modeling and Estimation

Wednesday	Room L1	Room L2	Room L3	Room L4	Room L5	Room P1	Room P2	Room P3
9:00am - 11:00am	ASMSP-L4 Music Signal Analysis and Processing	TMTSP-L3 Time-frequency and time-scale analysis	SiG-DML-L3 Learning Theory and Algorithms	BISA-L3 Biomedical Signal Classification	VIP-L2 Image Feature Extraction and Analysis	ASMSP-P2 Microphone Array Processing	SS-P3 Mathematical Foundations and Algorithms for Ptychography	SPCN-P1 Signal Processing for MIMO Communications
11:00am - 11:30am	Coffee Break							
11:30am - 12:30pm	Keynote 2: Michael Unser Deep Splines							
12:30pm - 1:30pm	Special Session: Elsevier							
1:30pm - 3:30pm	ASMSP-L5 Acoustic Source Localization and Tracking	TMTSP-L4 Signal Processing over Graphs & Networks	SiG-DML-L4 Neural Network Learning	BISA-L4 Biomedical Image Classification and Analysis	VIP-L3 Image Enhancement and Reconstruction	SPMuS-P2 Multichannel Signal Processing Algorithms and Applications	SiG-DML-P2 Applications of Machine Learning	TMTSP-P2 Filtering and Bayesian Signal Processing
3:30pm - 4:00pm	Coffee Break							
4:00pm - 6:00pm	ASMSP-L6 Deep Learning for Audio, Speech and Music Processing	TMTSP-L5 Sampling and Multirate Signal Processing	SS-L3 Signal Processing in Atrial Fibrillation	SS-L4 Deep Machine Listening	SPMuS-L2 DoA and Spectral Estimation	ASMSP-P3 Speech and Audio Separation	BISA-P2 Biomedical Image and Signal Analytics	TMTSP-P3 Data-Driven and Nonparametric Signal Processing

Thursday	Room L1	Room L2	Room L3	Room L4	Room L5	Room P1	Room P2	Room P3
9:00am - 11:00am	ASMSP-L7 Speech Recognition	TMTSP-L6 Tracking and Adaptive Signal Processing	SS-L5 Acoustic Scene Analysis and Signal Enhancement Based on Advanced Signal Processing, ML	BISA-L5 Biomedical Signal and Image Formation, Reconstruction and Restoration	SPMuS-L3 Multichannel Estimation and Detection	ASMSP-P4 Speech Enhancement	SiG-DML-P3 Neural Networks and Applications	SPCN-P2 Signal Processing and Applications for the IoT
11:00am - 11:30am	Coffee Break							
11:30am - 12:30pm	Keynote 3: Rebecca Willett Inverse Problems in Imaging							
12:30pm - 1:30pm	Special Session: Springer Nature							
1:30pm - 3:30pm	ASMSP-L8 Speaker and Emotion Recognition	TMTSP-L7 Adaptation and Learning over Graphs & Networks	SS-L6 Computational Imaging in the Era of Learning: Imagers, Priors and Algorithms	BISA-L6 Biomedical Signal and Image Segmentation and Detection	SPCN-L1 Machine Learning for Communications	VIP-P2 3D Image, Video and Point Cloud Processing	SS-P4 New Challenges in Tensor/Structured Matrix Based Methods and Algorithms	SPMuS-P3 Beamforming and Radar
3:30pm - 4:00pm	Coffee Break							
4:00pm - 6:00pm	ASMSP-L9 Speech Synthesis and Conversion	TMTSP-L8 Estimation and Detection Theory and Algorithms	SiG-DML-L5 Sequential Learning	VIP-L4 Video Processing	SPMuS-L4 Multisensor and Multimodal Machine Learning	ASMSP-P5 Speech Recognition and Speaker Analysis	BISA-P3 Biomedical Signal Processing III	TMTSP-P4 Optimization Techniques

Friday	Room L1	Room L2	Room L3	Room L4	Room L5	Room P1	Room P2	Room P3
9:00am - 11:00am	ASMSP-L10 Spatial Audio and Acoustic Processing	TMTSP-L9 Sparse Dictionary Learning and Reconstruction	SS-L7 Latent Variable Methods: Theoretical Advances and Applications in the Age of Machine Learning	VIP-L5 Image Segmentation		SS-P5 Recent Advances in Differential Geometry for Signal and Image Processing	BISA-P4 Biomedical Image Processing	TMTSP-P5 Sparsity-Aware Processing II
11:00am - 11:30am	Coffee Break							
11:30am - 12:30pm	Keynote 4: Robert Heath What is next in signal processing for MIMO communication?							
12:30pm - 1:30pm	3 Minute Thesis Competition							
1:30pm - 2:00pm	Closing Ceremony							