Satellite Workshops at the 2023 IEEE International Conference on Acoustics, Speech and Signal Processing

**Workshop Chairs:**

*Maria Sabrina Greco* (University of Pisa) & *Gerasimos Potamianos* (University of Thessaly)

**Program – Sunday June 4th**

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**W01 Data Science and Learning Workshop (DSLW): Unraveling the Brain**

**Organizers:**
- Tülay Adalı (University of Maryland, Baltimore County, USA)
- Selin Aviyente (Michigan State University, USA)
- Vince Calhoun (TReNDS, Georgia State, Georgia Tech, Emory, USA)
- Sharon Gannot (Bar-Ilan University, Israel)
- Eleftherios Kofidis (University of Piraeus, Greece)

**Sunday June 4 (Full Day); Lectures: Jupiter; Posters: WP-A, WP-B**

**8:30 AM Opening & Welcome**
Tülay Adalı, Selin Aviyente, Sharon Gannot (DSLW-Brain Workshop Organizers)
Athina Petropulu (President, IEEE Signal Processing Society)

**9:00 AM Plenary Talk: Dimitri Van De Ville** (EPFL & University of Geneva)
*Signals, Graphs, and Brains: Quantifying the Structure-Function Relationship*  
(Chair: Sharon Gannot)

**10:00 AM Coffee-Break**

**10:30 AM Plenary Talk: Shella D. Keilholz** (Georgia Tech & Emory University)
*Multi-scalar, Dynamic Intrinsic Brain Activity*  
(Chair: Tülay Adalı)

**11:30 AM Lunch**

**1:30 PM Panel: Explainability and Reproducibility in Neuroimaging**
- Pamela K. Douglas (UCLA)
- Z. Jane Wang (University of British Columbia)
- Dimitri Van De Ville (EPFL & University of Geneva)
- Selin Aviyente (Michigan State University)
- Sharon Gannot (Bar-Ilan University)
- Borbála (Bori) Hunyadi (TU Delft)

* Moderator & Panelist: Tülay Adalı (University of Maryland, Baltimore County)*

**3:30 PM Plenary Talk: Fabio Babiloni** (University of Rome “Sapienza”)
*Real-time Human Factors Assessment during Flight Operations and Training: A Neuroscience Perspective*  
(Chair: Selin Aviyente)

**4:30 PM Break & Poster Session Preparation**

**5:00 – 7:00 PM Poster Session (WP-A, WP-B) & Reception (Jupiter Lobby)**
Sunday June 4 (5:00 – 7:00 PM); Poster Areas: WP-A & WP-B

Chair: Sharon Gannot

WP-A-1
7024 (W01.01): Neuronal Cell Type Classification using Locally Sparse Networks
Ofek Ophir (Bar Ilan University); Orit Shefi (Bar Ilan University); Ofir Lindenbaum (Bar Ilan University)

WP-A-2
7025 (W01.02): A Sequence Agnostic Multimodal Pre-processing for Clogged Blood Vessel Detection in Alzheimer's Diagnosis
Partho Ghosh (Bangladesh University of Engineering and Technology); Md. Abrar Istiak (Bangladesh University of Engineering and Technology); Mir Sayeed Mohammad (Bangladesh University of Engineering and Technology); Swapnil Saha (Bangladesh University of Engineering and Technology); Uday Kamal (Georgia Institute of Technology)

WP-A-3
7035 (W01.03): Modeling and Inference of Sparse Neural Dynamic Functional Connectivity Networks Underlying Functional Ultrasound Data
Ruben Wijnands (Delft University of Technology); Justin Dauwels (Delft University of Technology); Ines Serra (Erasmus Medical Center); Pieter Kruizinga (Erasmus Medical Center); Aleksandra Badura (Erasmus Medical Center); Borbala Hunyadi (Delft University of Technology)

WP-A-5
7042 (W01.04): GLM-Regularized Low-Rank Factorization for Extracting Functional Response from Swept-3D Functional Ultrasound
Aybüke Erol (Delft University of Technology); Bastian Generowicz (Erasmus Medical Center); Pieter Kruizinga (Erasmus Medical Center); Borbala Hunyadi (Delft University of Technology)

WP-A-6
7044 (W01.05): Identification of Predictive Subnetwork for Brain Network-Based Psychiatric Diagnosis: An Information-Theoretic Perspective
Kaizhong Zheng (Xi’an Jiaotong University); Shujian Yu (Vrije Universiteit Amsterdam); Badong Chen (Xi’an Jiaotong University)

WP-A-7
7045 (W01.06): Angular Central Gaussian and Watson Mixture Models for Assessing Dynamic Functional Brain Connectivity During a Motor Task
Anders S Olsen (Technical University of Denmark); Emil Ortvald (Technical University of Denmark); Kristoffer H. Madsen (Technical University of Denmark); Mikkel N Schmidt (Technical University of Denmark); Morten Marup (Technical University of Denmark)

WP-A-9
7046 (W01.07): Modeling Nonlinear Evoked Hemodynamic Responses in Functional Ultrasound
Sofia-Eirini Kotti (Delft University of Technology); Aybüke Erol (Delft University of Technology); Borbala Hunyadi (Delft University of Technology)
WP-A-10
7048 (W01.08): Higher-order Organization in the Human Brain from Matrix-based Rényi’s Entropy
Qiang Li (University of Valencia); Shujian Yu (Vrije Universiteit Amsterdam); Kristoffer Hougaard Madsen (Danish Research Centre for Magnetic Resonance); Vince Calhoun (TReNDS); Armin Iraji (Georgia State University)

WP-A-12
7050 (W01.09): Multi-modal Deep Learning on Imaging Genetics for Schizophrenia Classification
Ayush Kanyal (Georgia State University); Srinivas Kandula (Georgia State University); Vince Calhoun (TReNDS); Dong Hye Ye (Georgia State University)

WP-B-1
7051 (W01.10): Generative Models for Large-scale Simulations of Connectome Development
Skylar Brooks (Boston Children's Hospital); Catherine Stamoulis (Harvard Medical School)

WP-B-3
7052 (W01.11): Local Spatial Flow Strengths in BOLD fMRI are Strongly Impacted by Schizophrenia
Robyn Miller (Georgia State University); Victor Vergara (TRENDS); Helen Petropoulos (TRENDS); Vince Calhoun (TREnds)

WP-B-5
7053 (W01.12): Accelerated Magnetic Resonance Fingerprinting with Low-rank and Generative Subspace Modeling
Hengfa Lu (University of Texas at Austin); Bo Zhao (University of Texas at Austin)

WP-B-6
7131 (W01.13): Fusion of Multi-modal Neuroimaging Data and Association with Cognitive Data
Mark D LoPresto (University of Maryland, Baltimore County); Mohammad Akhonda (University of Maryland, Baltimore County); Vince Calhoun (TReNDS); Tulay Adali (University of Maryland, Baltimore County)

WP-B-7
7134 (W01.14): Deep Generative Transfer Learning Predicts Conversion to Alzheimer’s Disease from Neuroimaging Genomics Data
Giorgio Dolci (University of Verona); Md Abdur Rahaman (Georgia Institute of Technology); Ilaria Boscolo Galazzo (University of Verona); Federica Cruciani (University of Verona); Anees Abrol (TReNDS); Jiayu Chen (TReNDS); Zening Fu (Georgia State University); Kuaikuai Duan (TReNDS); Gloria Menegaz (University of Verona); Vince Calhoun (TReNDS)

WP-B-9
7139 (W01.15): Dynamic Source Localization and Functional Connectivity Estimation with State-space Models: Preliminary Feasibility Analysis
Jose M. Sanchez-Bornot (Ulster University); Roberto C. Sotero (University of Calgary); Damien Coyle (Ulster University)

WP-B-10
7144 (W01.16): Variability of Functional Connectomes Through Community Structure
Brooke A Osterkamp (Michigan State University); Meiby Ortiz-Bouza (Michigan State University); Selin Aviyente (Michigan State University)
Integrated Sensing and Communications: New Frontiers, Newer Challenges

Organizers: Bhavani Shankar M. R. (University of Luxembourg, Luxembourg)
            Kumar Vijay Mishra (U.S. DEVCOM Army Research Labs, USA)

Sunday June 4 (Full Day); Lectures: Delphi Amphitheater

Chair: Bhavani Shankar M. R.

8:30 AM  Keynote 1: Mikko Valkama (Tampere University)
Cellular Positioning and Simultaneous Localization and Mapping (SLAM): Selected Recent Advances

9:15 AM
6954 (W02.03): ISAC from the Sky: Net-zero Energy UAV Trajectory Design
Xiaoye Jing (University College London); Fan Liu (Southern University of Science and Technology); Christos Masouros (University College London)

9:30 AM
7096 (W02.08): In-Band Full-Duplex Solutions in the Paradigm of Integrated Sensing and Communication
Armen Harutyunyan (Barkhausen Institut); Padmanava Sen (Barkhausen Institut)

9:45 AM
7093 (W02.07): Semi-Distributed Hybrid Beamforming Design for Cooperative Cell-Free Dual-Function Radar-Communication Networks
Bowen Wang (University of Electronic Science and Technology of China); Lingyun Xu (University of Electronic Science and Technology of China); Ziyang Cheng (University of Electronic Science and Technology of China); Zishu He (University of Electronic Science and Technology of China)

10:00 AM  Coffee-Break

10:30 AM  Keynote 2: Perry Wang (Mitsubishi Electric Research Laboratories)
Integrated Wi-Fi Sensing and Communication: Signal Processing, Deep Learning and Standards Activities

11:15 AM
6943 (W02.02): Deep Learning-based Modulation Classification for OFDM Systems without Symbol-level Synchronization
Byungjun Kim (University of California, San Diego); Venkatesh Sathyanarayanan (University of California, San Diego); Christoph F Mecklenbräucker (Technische Universität Wien); Peter Gerstoft (University of California, San Diego)

11:30 AM
7082 (W02.05): Multi-task Learning for Radar Signal Characterisation
Zi Huang (Queensland University of Technology); Akila Pemasiri (Queensland University of Technology); Simon Denman (Queensland University of Technology, Australia); Clinton Fookes (Queensland University of Technology); Terrence Martin (Revolution Aerospace)
11:45 AM
6934 (W02.01): Joint Radar and Communication Receiver Processing Based on Sparse Bayesian Learning
Honghao Li (Tsinghua University); Tianyao Huang (Tsinghua University); Yu Zhang (Tsinghua University); Yimin Liu (Tsinghua University); Yonina Eldar (Weizmann Institute of Science)

12:00 NOON – 2:00 PM: Lunch Break

2:00 PM  Keynote 3: Athina Petropulu (Rutgers University)
Physical Layer Secure Design of Dual-Function Radar-Communication Systems

3:00 PM
7115 (W02.10): Secure Integrated Sensing and Communication Downlink Beamforming: A Semidefinite Relaxation Approach with Tightness Guaranteed
Wai Yu Keung (The Chinese University of Hong Kong); Hoi-To Wai (The Chinese University of Hong Kong); Wing-Kin Ma (The Chinese University of Hong Kong)

3:15 PM
7027 (W02.04): Optimal Sparse MIMO Transceiver Design for Joint Automotive Sensing and Communications
Weitong Zhai (Beihang University); Xiangrong Wang (Beihang University); Xianghua Wang (Shandong University of Science and Technology); Moeness Amin (Villanova University); Tao Shan (Beijing Institute of Technology)

3:30 PM  Coffee-Break

4:00 PM
7088 (W02.06): Quantized Phase-Shift Design of Active IRS for Integrated Sensing and Communications
Zahra Esmaeilbeig (University of Illinois at Chicago); Arian Eamaz (University of Illinois, Chicago); Kumar Vijay Mishra (United States DEVCOM Army Research Laboratory); Mojtaba Soltanalian (University of Illinois)

4:15 PM
7108 (W02.09): Next-Generation IoT Networks: Integrated Sensing Communication and Computation
Kunwar Pritiraj Rajput (University of Luxembourg); Linlong Wu (University of Luxembourg); Bhavani Shankar Mysore Ramarao (University of Luxembourg)

4:30 – 5:30 PM  Panel Discussion: The Future of ISAC
Panelists: Hagit Messer (Tel Aviv University)
Besma Smida (University of Illinois, Chicago)
Björn Ottersten (KTH)
Lee Swindlehurst (University of California, Irvine)
Visa Koivunen (Aalto University)
Joseph Tabrikian (Ben Gurion University)

Moderators: Bhavani Shankar M. R.  &  Kumar Vijay Mishra (Workshop Organizers)
Organizers: Angelo Coluccia (University of Salento, Italy)
Alessio Fascista (University of Salento, Italy)
Arne Schumann (Fraunhofer Institute, Karlsruhe, Germany)
Lars Sommer (Fraunhofer Institute, Karlsruhe, Germany)
Anastasios Dimou (CERTH, Greece)
Dimitrios Zarpalas (CERTH, Greece)
Nabin Sharma (University of Technology Sydney, Australia)

Sunday June 4 (PM-only); Lectures: Athena Hall
Chair: Angelo Coluccia

2:00 PM Opening: Angelo Coluccia
Workshop Opening and Presentation of the “Drone-vs-Bird Grand Challenge”

2:15 PM
6941 (W03.03): S-Feature Pyramid Network and Attention Module for Small Object Detection
Chuntao Wang (Shandong Normal University); Pengcheng Dong (Shandong Normal University); Jiaode Sun (Shandong Normal University); Zhenyong Lu (Shandong Normal University); Kai Zhang (Shandong Normal University); Wenbo Wan (Shandong Normal University)

2:30 PM
6988 (W03.06): SETNET: A Sparse Ensemble Network for Drone Localization and Zero Shot Drone Tracking in Real Time Surveillance Videos
Dharini Raghavan (Ramaiah Institute of Technology); Sethu Selvi S (Ramaiah Institute of Technology)

2:45 PM
7107 (W03.07): Efficient Moving Target Detection Using Resource-Constrained Neural Networks
Dimitrios Milioris (Nokia Bell Labs)

3:00 PM
6945 (W03.04): Deep Learning Based UAV Payload Recognition
Lars Sommer (Fraunhofer IOSB, Karlsruhe); Raphael Spraul (Fraunhofer IOSB, Karlsruhe)

3:15 PM
6937 (W03.02): Unique Resonance Features Based Composite Drone Recognition Using Vector Fitting Method
Prajakta Sathe (Indian Institute of Technology, Kharagpur); Amitabha Bhattacharyya (Indian Institute of Technology, Kharagpur)

3:30 PM Coffee-Break
4:00 PM
6952 (W03.05): Simulation of Micro-Doppler Signatures of Drones
Megha Kataria (Indian Institute of Technology, Delhi); Brejesh Lall (Indian Institute of Technology, Delhi)

4:15 PM
6888 (W03.01): RF-based Small Drone Detection and Classification Using Spectrogram Images
Feten Slimeni (STD Laboratory); Tijeni H Dellej (Military Research Center); Zied Chtourou (Military Academy of Tunisia); Noureddine Bouleffene (CRM Tunis)

4:30 PM
7184 (W03.08): Energy-Efficient UAV Trajectories: Simulation vs Emulation
Nithin Babu (University College London); Kimon Karathanasopoulos (The American College of Greece); George Vardoulias (The American College of Greece); Constantinos B Papadias (The American College of Greece)

4:45 PM – 5:00 PM  Closing: Angelo Coluccia & Lars Sommer
Open Discussion and Closing Remarks