USC Viterbi
School of Engineering
Ming Hsieh Department of Electrical and Computer Engineering

Cutting Gardens

Local Program
Wednesday, October 18

Time	Session
8:30	*Registration/Continental Breakfast*
9:15	Opening of the Los Angeles Garden Richard Leahy, University of Southern California
9:30	Introduction and Overview of Brainsuite David Shattuck, University of California, Los Angeles
10:15	*Coffee Break*
10:30	Brainsuite Tools & Discussion Anand Joshi, University of Southern California
11:00	Introduction to EEG/MEG Analysis Richard Leahy, University of Southern California
11:45	EEG Live Demo & Discussion Cameron Sacks, Wearable Sensing
12:00	*Lunch Break*
	Brainstorm Hands-On Tutorial Raymundo Cassani, McGill University Takfarinas Medani, University of Southern California
12:30	Training Material Installation with Online Assistance
13:00	Introduction to Brainstorm
13:30	Loading Anatomy and Recordings Set Anatomy/Review Raw Recordings/Import Events
14:35	Preprocessing Frequency Filters/Artifact Detections/Artifact Correction with SSP
15:30	*Coffee Break*
15:45	Analysis Sensor Level Import Recording/Review Trials/Trial Averages
16:20	Source Estimation Forward Model (aka Head Model)/Noise Covariance Matrix/Source Estimation (from EEG and MEG recording)
16:55	Analysis Source Level Cortex Parcellations: Atlases & Scouts/Noise Covariance Matrix/Source Estimation (from EEG and MEG recording)
17:30	*Discussion and Closing*

Local Program

Thursday, October 19

Time	Event
8:30	*Continental Breakfast*
	Machine Learning and EEG Session 1: Computational Tools and Pipelines for ML Analysis Session Chair- Richard Leahy, University of Southern California
9:00	Machine Learning and the BIDS EEG Data Format Arnaud Delorme, University of California, San Diego
9:25	Creating Deployable Workflows for EEG Signal Processing and ML/DL Using NeuroPype Tim Mullen, Intheon Labs
9:50	Workload Estimation Using Brain- and Bio- Signals for Adaptive Training System Ivan Tashev, Microsoft Research
10:15	AI/ML Enhances Dynamic Brain Imaging from EEG/MEG Bin He, Carnegie Mellon University
10:40	*Coffee Break*
	Machine Learning and EEG Session 2: Self Supervised Learning Session Chair- Takfarinas Medani, University of Southern California
11:00	Unsupervised Multivariate Time-Series Transformers for Seizure Identification on EEG Dominique Duncan, University of Southern California
11:25	Neuro-GPT: A Foundation Model Pretrained on Large-Scale EEG Data Wenhui Cui, University of Southern California
12:00	*Lunch Break*
	Machine Learning and EEG Session 3: Machine Learning for Brain Computer Interfaces Session Chair- Shrikanth Narayanan, University of Southern California
13:00	A High Performance Neuroprosthesis for Speech Decoding and Avatar Control Alexander Silva, University of California, San Francisco
13:30	AI-powered Next-generation Neurotechnologies Maryam Shanechi, University of Southern California
14:00	Reconstructing Pink Floyd from Human Auditory Cortex Ludovic Bellier, University of California, Berkeley
14:40	**Panel Discussion: The Role of Foundational Models in Spontaneous and Event Related EEG** Moderators- Shrikanth Narayanan, Kristina Lerman, University of Southern California
15:10	*Coffee Break*
	Machine Learning and EEG Session 4: Machine Learning for Neurological Disorders Session Chair- Kristina Lerman, University of Southern California
15:40	Machine Learning Algorithms for Electromagnetic Brain Imaging in Dementia Srikantan Nagarajan, University of California, San Francisco
16:05	Graph Representation Learning of MEG Signals Opens a Window to Aging Trajectories and Alzheimer's Disease Dimitrios Pantazis, Massachusetts Institute of Technology
16:30	Inter-individual Differences in Neurophysiology Vary with Age and Disease Jason da Silva Castanheira, McGill University
17:00	*Closing and Final Remarks*
17:00	*Reception* — Hughes Aircraft Electrical Engineering Building Courtyard