



2022 Neural Computation and Engineering Connection Thursday, May 5, 2022

UW Husky Union Building (HUB) Rooms 334 & 332

- 11:15a-12:30p Poster session and lunch (provided), HUB 334
- 12:30-12:40pm Welcome: Eric Shea-Brown, HUB 332
- 12:40-12:55pm *"Lyapunov-guided interpretation and optimization of Recurrent Neural Network performance"*
Ryan Vogt, Applied Mathematics graduate student, Shlizerman Lab
- 12:55-1:10pm *"Beyond accuracy: robustness and generalization properties of biologically plausible learning rules"*
Helena Liu, Applied Mathematics graduate student, Shea-Brown Lab
- 1:10-1:25pm *"Credit assignment in BCI learning with decoder adaptation "*
Pavithra Rajeswaran, Bioengineering graduate student, Orborn lab
- 1:25-1:40pm *"How do early blind individuals experience auditory motion?"*
Woon Ju Park, Postdoctoral scholar and Weill Neurohub Fellow, Fine lab
- 1:40-1:50pm Break
- 1:50-2:05pm *"Parsing cue-reward coding across mouse prefrontal, motor, and olfactory cortex"*
David Ottenheimer, Postdoctoral scholar, Steinmetz and Stuber labs
- 2:05-2:20pm *"Effects of aging on tissue properties of the optic radiations, and how this differs with glaucoma."*
John Kruper, Post-bac researcher, Rokem lab
- 2:20-2:35pm *"Probing the mechanisms behind stimulation-induced neuroprotection and plasticity after ischemic stroke "*
Aryaman Gala, WRF undergraduate fellow, Yazdan-Shahmorad lab
- 2:35-2:50pm *"Factors affecting perceptual threshold and spatial resolution in Argus II patients"*
Ezgi Yucel, Psychology graduate student, Fine lab
- 2:50-3:05pm *"Co-adaptive Myoelectric Interfaces for Continuous Control"*
Maneeshika Madduri, ECE graduate student, Burden and Orsborn labs
- 3:05-3:20pm Break
- 3:20-4:20pm *"Evolution of a multiscale modeling approach in neuroscience"*
Plenary lecture: Randy McIntosh, Simon Fraser University
- 4:20-5:15pm Ethics panel discussion



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Friday, May 6, 2022

Kane Hall, Walker-Ames room

- 9:00-9:30am Continental breakfast
- 9:30-10:30am *"Curriculum learning as a tool to probe learning rules in artificial and biological brains"*
Plenary Lecture: Kanaka Rajan, Mount Sinai School of Medicine
- 10:30-11:00am *"Dissecting visual-frontal cortical interactions during perceptual behavior"*
Anitha Pasupathy, UW Biological Structure
- 11:00-11:20am Break
- 11:20-11:40am *"Quantifying Inter-areal Interactions using the Gaussian Partial Information Decomposition"*
Praveen Venkatesh, Shanahan Foundation fellow
- 11:40-12:10pm *"Novelty has diverse effects on coding by cortical disinhibitory circuits"*
Marina Garret, Allen Institute for Brain Science
- 12:10-1:10pm Lunch (provided)
- 1:10-2:10pm *"Drug Discovery based on Neuroanatomical Insights"*
Plenary Lecture: Julie Harris, Cajal Neuroscience
- 2:10-2:30pm *"Population analyses of mouse hippocampus and visual cortex during repeated visual stimulation"*
Monica Liu, Shanahan Foundation fellow
- 2:30-2:50pm *"Arousal, allostasis, and the spatiotemporal regulation of brain function"*
Ryan Raut, Shanahan Foundation fellow
- 2:50-3:10pm Break
- 3:10-3:30pm *"Sensing in Flight: Neural encoding and wing structure interact to shape sensory information"*
Ali Weber, WRF Postdoctoral Fellow
- 3:30-4:00pm *"Probing the sensory representation in the visual cortex with deep learning models "*
Edgar Walker, UW Physiology & Biophysics
- 4:00-5:00pm *"Brain-wide and cell type-specific analysis of neural dynamics"*
Plenary Lecture: Karel Svoboda, Allen Institute for Brain Science
- 5:00-6:15pm Reception