



2016 Neural Computation and Engineering Connection

Friday, January 29, 2016

UW Husky Union Building (HUB) Room 250
Early evening reception in HUB 145

Guest wireless access: Connect to network "University of Washington", open browser
UW NetID: event1000 Password: 25xL/64bZ/79sN

- 8:00-8:25am Continental breakfast
- 8:25-8:30am Welcome and community updates
Adrienne Fairhall, Tom Daniel, Eric Shea-Brown, Michael Rudd
- Session I: Big Data in Neuroscience Workshop
Chair: Eric Shea-Brown
- 8:30-9:00am *"Making sense of heterogeneity in high dimensional neural dynamics"*
Mehrdad Jazayeri, Massachusetts Institute of Technology
- 9:00-9:30am *"Classification of neuronal networks dynamics from data"*
Eli Shlizerman, UW Applied Math & Electrical Engineering
- 9:30-10:00am *"Extracting spatio-temporal coherent patterns in high-dimensional neural recordings"*
Bing Brunton, UW Biology
- 10:00-10:20am Break
- 10:20-11:10am Plenary Lecture: *"Statistical testing for structured neural population recordings"*
John Cunningham, Columbia University
- 11:10-11:40am Panel discussion: John Cunningham, Ashkan Ashrafi, Nathan Kutz, Mehrdad Jazayri, Bing Brunton, Eli Shlizerman,
- 11:40am-12:40pm Lunch (provided)

Session II

Chair: Tom Daniel

- 12:40-1:00pm *"Correlation-based model of artificially-induced plasticity in motor cortex by brain-machine-interfaces"*
Guillaume Lajoie, UW Physiology & Biophysics
- 1:00-1:20pm *"Approaches to cortical plasticity and the coding of proprioception in sensory cortex"*
Tom Richner, UW Physiology & Biophysics
- 1:20-1:40pm *"Dynamical shape discrimination in visual and frontal cortex"*
Hannah Choi, UW Applied Math
- 1:40-2:00pm Break

Session III

Chair: Raj Rao

- 2:00-2:50pm Plenary Lecture: *"Decoding imagined movements from posterior parietal cortex of tetraplegic humans"*
Richard Andersen, California Institute of Technology
- 2:50-3:20pm *"Predictive dynamical models for sensorimotor control"*
Sam Burden, UW Electrical Engineering
- 3:20-3:50pm *"Mice develop efficient strategies for foraging and navigation using complex natural stimuli"*
David Gire, UW Psychology
- 3:50-4:10pm Break

Session IV

Chair: Adrienne Fairhall

- 4:10-4:40pm *"Somatosensory computation in central circuits of the fly"*
John Tuthill, UW Physiology & Biophysics
- 4:40-5:30pm Plenary Lecture: *"The novel neurotechnologies: Implications for neuroscience, medicine and society"*
Rafael Yuste, Columbia University
- 5:30-6:30pm Reception in HUB 145 (one floor down)