



## 2020 Neural Computation and Engineering Connection Thursday, January 30, 2020

UW Husky Union Building (HUB) Rooms 334 & 332

- 11:15a-12:30p Poster session and lunch (provided), HUB 332
- 12:30-12:40pm Welcome: Adrienne Fairhall, Eric Shea-Brown, Tom Daniel, HUB 334
- 12:40-12:55pm *"The Smellicopter: a bio-hybrid odor localizing nano-air vehicle"*  
Melanie Anderson, Mechanical Engineering graduate student, Daniel Lab
- 12:55-1:10pm *"Go with the FLOW: Spatiotemporal Dynamics in Optical Widefield Calcium Imaging"*  
Nate Linden, UWIN undergraduate fellow, Bing Brunton Lab
- 1:10-1:25pm *"Learning to see again: Perceptual learning for sight restoration technologies"*  
Rebecca Esquenazi, Psychology graduate student, Fine lab
- 1:25-1:40pm *"Tuning for global motion in ventral visual area V4 "*  
Anthony Bigelow, Comp Neuro graduate fellow, Pasupathy lab
- 1:40-2:00pm Break
- 2:00-2:15pm *"Anipose: a full system for robust 3D markerless tracking"*  
Pierre Karaschuk, Neuroscience graduate student, Tuthill and Bing Brunton labs
- 2:15-2:30pm *"Stimulation rebound in deep brain stimulation for essential tremor."*  
Sarah Cooper, Comp Neuro undergraduate fellow, Chizeck lab
- 2:30-2:45pm *"Dimensionality and Dynamics in classifying Recurrent Neural Networks"*  
Matt Farrell, Applied Math graduate student, Shea-Brown lab
- 2:45-3:00pm *"A Toolbox for Studying Ischemic Stroke in Non-Human Primate Cortex" "*  
Karam Khateeb, Bioengineering graduate student, Yazdan-Shahmorad lab
- 3:00-3:20pm Break
- 3:20-4:10pm *"Modulating neural sequencing to improve recovery after stroke"*  
Keynote lecture: Karunesh Ganguly, University of California, San Francisco
- 4:10-5:10pm Ethics panel discussion: "Management in scientific collaborations"



## 2020 Neural Computation and Engineering Connection Friday, January 31, 2020

UW Gates Center for Computer Science and Engineering (CSE2)  
Zillow Commons & Singh Gallery (4<sup>th</sup> floor)

- 8:30-9:00am Continental breakfast
- 9:00-9:15am Welcome and community updates: Adrienne Fairhall, Eric Shea-Brown, Tom Daniel
- 9:15-10:05am *"Lifelong adaptive learning, transfer and savings through gating in the prefrontal cortex"*  
Keynote Lecture: Terry Sejnowski, Salk Institute
- 10:05-10:35am *"Large-scale brain network dynamics informed by ultrafast functional MRI"*  
Hesam Jahanian, UW Radiology
- 10:35-10:55am Break
- 10:55-11:25am *"Paradigms for data-driven control"*  
Nathan Kutz, UW Applied Mathematics
- 11:25-11:45am *"Comparing the effects of frontal and temporal neurostimulation on second language learning"*  
Kinsey Bice, UWIN Postdoctoral Fellow
- 11:45-12:15pm *"Simulating the perceptual experience of patients implanted with cortical visual prosthetics"*  
Ione Fine, UW Psychology
- 12:15-1:15pm Lunch (provided)
- 1:15-2:05pm *"A Design Principle for Population Neural Codes"*  
Keynote Lecture: Michael Berry, Princeton University
- 2:05-2:25pm *"From intention to movement: low-power, high performance communication protocol for backscattered-based neural implants"*  
Laura Aronja, UWIN Postdoctoral Fellow
- 2:25-2:45pm *"Using a fluorescent voltage sensor to measure membrane potential in Drosophila proprioceptive axons"*  
Lylah Deady, UWIN Postdoctoral Fellow

- 2:45-3:05pm Break
- 3:05-3:25pm *"The Role of Corticospinal Tract Plasticity in Motor Recovery Induced by Targeted Activity Dependent Spinal Stimulation "*  
Allie Widman, UWIN Postdoctoral Fellow
- 3:25-3:55pm *"Neural processing and behavioral strategies used by mice to navigate with dynamic odor plumes"*  
David Gire, UW Psychology
- 3:55-4:45pm *"Comparing high-dimensional neural recordings across time, space, and behavior"*  
Keynote Lecture: Eva Dyer, Georgia Institute of Technology
- 4:45-6:15pm Reception – Singh Gallery