

NeuroFutures Conference Program

Sessions start in the UW Tower Auditorium each morning, on the Mezzanine Level.

Tuesday, June 17th

7:30-8:15 AM

Registration and light breakfast - UW Tower Auditorium Lobby/Mezzanine

8:15-8:30 AM

Welcome and NeuroFutures Vision - UW Tower Auditorium

Rad Roberts, Center for Sensorimotor Neural Engineering

8:30-9:00 AM

The United States Neuroscience Roadmap - UW Tower Auditorium

Philip Rubin, Office of Science and Technology Policy

9:00-10:15 AM

Functional Mapping Informs BCI and Neuromodulation Innovations

UW Tower Auditorium

Andres Lozano, Clinical applications of deep brain stimulation, University of Toronto

Richard Buxton, The potential and the challenge of assessing neural activity with functional MRI, University of California San Diego

Richard Andersen, Cognitive prosthetic devices in human parietal cortex, California Institute of Technology

10:15-10:45 AM

Refreshment Break

10:45-11:45 AM

Measuring, Mapping, and Modifying Cognitive Functions

UW Tower Auditorium

Tom Grabowski, Functional connectivity via resting state fMRI in humans, University of Washington

Justin Sanchez, Systems-based neurotechnology for neuropsychological illnesses, Defense Advanced Research Projects Agency (DARPA)

11:45-Noon

Lightning talks from poster presenters - UW Tower Auditorium

1 minute + 1 slide. All poster presenters are invited.

12:00-1:45 PM

Lunch, posters, discussion - UW Tower South Cafeteria

2:00-3:15 PM

The Role of Connectivity in Target Selection for Neuromodulation

Hotel Deca Ballroom

Christopher Kroenke, Cortical cytoarchitecture revealed from diffusion based MRI, Oregon Health & Science University

Kim Burchiel, Finding new targets and indications for deep brain stimulation, Oregon Health & Science University

David Newell, Ultrasound for neurological disorders, Swedish Neuroscience Institute

Bret Schneider, Modulation of brain networks with multi-coil stimulation, Cervel Neurotech

3:15-3:30 PM

Refreshment Break

3:30-4:45 PM

Mining Shared Neural Data Sets

Hotel Deca Ballroom

Magali Haas, Introducing Neurosensors into Systems Medicine & Predictive Computational Modeling of Brain Disease, Orion Bionetworks

Julie Harris, The Allen Mouse Brain Connectivity Atlas, Allen Institute for Brain Science

Mike Hawrylycz, The canonical genetic signatures of the adult human brain, Allen Institute for Brain Science

Paul Fearn, HIDRA/ARGOS: The Hutch/UW Cancer consortium informatics platform for integrating and visualizing clinical and molecular data for brain cancer, Fred Hutchinson Cancer Research Center

4:45-5:30 PM

Resources and Partnering Opportunities – Part 1

Hotel Deca Ballroom

Bart Keogh, Centralized neuroradiology post-processing services, Radia Inc.

Rajesh Rao, Neural engineering collaboration opportunities with the Center for Sensorimotor Neural Engineering, University of Washington

John Henson, NeuroNEXT clinical trial consortium, Swedish Neuroscience Institute

6:00-8:00 PM

Reception

Burke Museum

17th Ave Northeast and NE 45th St.

Seattle, WA 98105

Wednesday, June 18th

7:30-8:00 AM

Registration and light breakfast - UW Tower Auditorium Lobby/Mezzanine

8:00-9:15 AM

The Past, Present, and Future of Closed-loop Neuromodulation

UW Tower Auditorium

Milton Morris, Applying lessons from cardiac devices to neuromodulation, Cyberonics

Eberhard Fetz, Applications of bi-directional brain-computer interfaces, University of Washington

Tim Denison, Technology for bi-directional brain computer interfaces, Medtronic

Ryder Gwinn, Responsive Neurostimulation for Epilepsy, Swedish Neuroscience Institute

9:15-10:15 AM

Learning, Plasticity, and Adaptation in Neural Interfaces

UW Tower Auditorium

Chet Moritz, Cortical-spinal neuroprosthesis, University of Washington

Jeffrey Ojemann, Learning mechanisms for brain computer interfaces, University of Washington

Adrienne Fairhall, Computational analysis of neural adaptation, University of Washington

10:15-10:45 AM - *Refreshment break*

10:45-11:45 AM

Neural Engineering Approaches for Auditory and Memory Prostheses

UW Tower Auditorium

Josh Jacobs, Probing human memory with direct brain recording and stimulation, Drexel University

Adrian KC Lee, Using BCI to determine auditory focus in noisy environments, University of Washington

Les Atlas, Modulation encoding of tonality perception for cochlear implants, University of Washington

11:45-Noon

Lightning talks (1 minute + 1 slide) - **UW Tower Auditorium**

12:00-1:45 PM

Lunch, posters, discussion – **South Cafeteria, UW Tower**

2:00-2:45 PM

Resources and Partnering Opportunities – Part 2

Hotel Deca Ballroom

Bob Wilcox, Northwest NeuroNeighborhood initiative, Viket Medical

Norman Beauchamp, Radiology facilities and collaboration opportunities, University of Washington

Kip Ludwig, NINDS programs and opportunities

2:45-3:45 PM

Generating and Handling Large Neural Data Sets

Hotel Deca Ballroom

Hanchuan Peng, High-throughput neuroanatomy and data mining, Allen Institute for Brain Science

Tim Blanche, Order of magnitude improvements for neural interfaces, Allen Institute for Brain Science

Bing Brunton, Sparse sensing tools for mining neural signals, University of Washington

Matt Reynolds, Novel wireless power and data transfer systems, University of Washington

3:45-4:00 PM

Refreshment break

4:00-4:45 PM

Neurotechnology Development and Brain Mapping: A Virtuous Cycle

Hotel Deca Ballroom

Ed Lein, Transcriptome and connectome mapping, AIBS

Craig Forest, Automated patch clamp electrophysiology of neurons in the living brain, Georgia Institute of Technology

4:45- 5:00 PM - *Closing remarks*