BRAIN Initiative Investigators Pre-meeting on Large Scale Recording and Modulation

December 9, 2015, 1:00 pm - 6:00 pm
Terrace Level Conference Room T500
5635 Fishers Lane, Rockville, MD

Highlights of BRAIN Initiative research projects (RFA-NS-14-007, 008, RFA-NS-15-003, 004, RFA-EY-15-001, RFA-NS-15-006, 008) on Large Scale Recording and Modulation in the areas of electrodes, optical instruments and imaging, and probes.

1:00 pm – 1:10 pm	**Opening and Introduction** Sarah H. Lisanby, M.D., Director of Translational Research, NIMH FOA team members
1:10 pm – 2:30 pm	**Electrodes and Others** Moderator: Michael Steinmetz, Ph.D., Acting Director, Division of Extramural Research, NEI
1:10 pm – 1:55 pm	13 Project highlights
1:55 pm – 2:05 pm	Massive scale electrical neural recordings in vivo using commercial ROIC chips *Andreas Schaefer, Ph.D., University College London*
2:05 pm – 2:15 pm	Tunneling microfiber electrode arrays for stable neural recording *Tim Gardner, Ph.D., Boston University*
2:15 pm – 2:30pm	Discussion
2:30 pm – 2:45 pm	**Break**
2:45 pm – 4:10 pm	**Probes and Sensors** Moderator: Changhai Cui, Ph.D., Program Director, Division of Neuroscience and Behavior, NIAAA
2:45 pm – 3:35 pm	15 Project highlights
3:35 pm – 3:45 pm	Protein voltage sensors: kilohertz imaging of neural dynamics in behaving animals *Cheng Huang, Ph.D., (Mark Schnitzer), Stanford University*
3:45 pm – 3:55 pm	Genetically encoded sensors for the biogenic amines: watching neuromodulation in action *Lin Tian, Ph.D., University of California at Davis*
3:55 pm – 4:10 pm	Discussion
4:10 pm – 4:25 pm	**Break**
4:25 pm – 5:55 pm	**Optical Instrument and Imaging** Moderator: Richard Conroy, Ph.D., Director, Division of Applied Science and Technology, NIBIB
4:25 pm – 5:20 pm	18 Project highlights
5:20 pm – 5:30 pm	Five-dimensional optoacoustic tomography for large-scale electrophysiology in scattering brains *Daniel Razansky, Ph.D., Technical University of Munich*
5:30 pm – 5:40 pm	Optimization of 3-photon microscopy for Large Scale Recording in Mouse Brain *Chris Xu, Ph.D., Cornell University*
5:40 pm – 5:55 pm	Discussion
5:55 pm	**Conclusion** Michael Steinmetz, Ph.D., Acting Director, Division of Extramural Research, NEI