Research Highlight Talks

Track 1: Cells and Circuits

Main Ballroom A-C

December 10, 2015 (9:15am-12:30pm)

9:20am-9:40am	Epigenomic Signatures Distinguish Brain Cell-Types *Joseph Ecker* - The Salk Institute
9:40am-10:00am	Label-Free Spectroscopic Platform for Identification and Chemical Profiling of Cell Types and their Connections in the Brain *Jonathan Sweedler* - University of Illinois
10:05am-10:25am	Remote Regulation of Neural Activity *Sarah Stanley* - Icahn School of Medicine, Mount Sinai
10:25am-10:45am	An Inducible Molecular Memory System to Record Transient States of CNS Cells *Joseph Dougherty* - Washington University
10:45am-11:00am	**BREAK**
11:05am-11:25am	Defining Cell Types, Lineage, and Connectivity in Developing Human Fetal Cortex *Jason Stein* - UNC - Chapel Hill
11:25am-11:45am	Genetically Encoded Light Sources for Non-Invasive Optogenetics *Ute Hochgeschwender* - Central Michigan University
11:50am-12:10pm	Novel Technologies for Transsynaptic Tracing *Ian Wickersham* - MIT
12:10pm-12:30pm	Analysis of Brain Circuits with Optically Controlled Synaptic GPCRs *Ehud Isacoff* - University of California Berkeley

Track 2: Neural Recording and Modulation

White Oak A & B

December 10, 2015 (9:15am-12:30pm)

9:20am-9:40am	Photoacoustic Tomography of Brains in Action *Lihong Wang* - Washington University
9:40am-10:00am	Neurotransmitter Absolute Concentration Determination with Diamond Electrode *Kendall Lee* - Mayo Clinic
10:05am-10:25am	Three Dimensional Holography for Parallel Multi-Target Optogenetic Circuit Manipulation *Valentina Emiliani* - CNRS-University Paris Descartes
10:25am-10:45am	Modular Nanophotonic Probes for Dense, Large-Scale Neural Recording With Single-Cell Resolution *Michael Roukes* - California Institute of Technology
10:45am-11:00am	**BREAK**
11:05am-11:25am	Neuronal Voltage Tracers for Photoacoustic Imaging in the Deep Brain *Jon Sack* - University of California Davis
11:25am-11:45am	SCAPE Microscopy for High-Speed In Vivo Volumetric Microscopy in Behaving Organisms *Elizabeth Hillman* - Columbia University
11:50am-12:10pm	Modular Systems for Measuring and Manipulating Brain Activity *Vanessa Tolosa* - Lawrence Livermore National Lab
12:10pm-12:30pm	Spatially Controlled In Vivo Optogenetic Light Stimulation and Recording via Imaging Fiber Bundles *Stephen Boppart* - University of Illinois

Track 3: Understanding the Brain

Brookside A & B

December 10, 2015 (9:15am-12:30pm)

9:20am-9:40am	Neural Circuits in Zebrafish: Form, Function, and Plasticity *Florian Engert* - Harvard University
9:40am-10:00am	Integrative Functional Mapping of Sensory-Motor Pathways: Methods for Tracking Information Flow in Intact Walking Animals *Michael Dickinson* - California Institute of Technology
10:05am-10:25am	Neural Ensembles Underlying Natural Tracking Behavior *Nicholas Priebe* - University of Texas Austin
10:25am-10:45am	Multiscale Imaging of Spontaneous Activity in Cortex: Mechanisms, Development and Function *Michael Crair* - Yale University
10:45am-11:00am	**BREAK**
11:05am-11:25am	Dynamic Network Computations for Foraging in an Uncertain Environment *Dora Angelaki* - Baylor College of Medicine
11:25am-11:45am	Closing the Loop on Social Behaviors, from Mathematical Models to Neural Circuit Dynamics *Mala Murthy* - Princeton University
11:50am-12:10pm	Reverse Engineering Neocortical Intelligence *Andreas Tolias* - Baylor College of Medicine
12:10pm-12:30pm	Reshaping the Functional Brain Connectome to Enhance Human Intelligence *Aron Barbey* - University of Illinois

Track 4: Human Neuroscience

White Flint Amphitheater

December 10, 2015 (9:15am-12:30pm)

9:20am-9:40am	Finding NEMO (Neuro-Electro-Magnetic Oscillations) with MRI In Vivo in Humans *Allen Song* - Duke University
9:40am-10:00am	Imaging Brain Function in Real World Environments & Populations with Portable MRI *Michael Garwood* - University of Minnesota
10:05am-10:25am	Vascular Interfaces for Brain Imaging and Stimulation *Edward Boyden* - MIT
10:25am-10:45am	High-Bandwidth Wireless Interfaces for Continuous Human Intracortical Recording *Leigh Hochberg* - Mass General/Brown University
10:45am-11:00am	**BREAK**
11:05am-11:25am	Sleep's Role in Determining the Fate of Individual Memories *Kenneth Norman* - Princeton University *Ken Paller* - Northwestern University
11:25am-11:45am	Algorithmically Explicit Neural Representation of Visual Memorability *Aude Oliva* - MIT
11:50am-12:10pm	Towards Decoding of Generic Mental Representations from fMRI Data *Francisco Pereira* - Siemens Healthcare
12:10pm-12:30pm	High-Resolution Multimodal Acousto-Electromagnetic Neuroimaging of Brain Activity *Bin He* - University of Minnesota