

## Sunday November 7<sup>th</sup>

- 3:00 pm      Check-in
- 6:00 pm      Reception (Lobby)
- 7:00 pm      Dinner
- 8:00 pm      Welcome and Introduction
- 8:10 pm      Session 1: Optogenetics Methodology (Part I)**
- 8:10 pm      **Peter Hegemann**, Humboldt-Universität zu Berlin  
*New directions for optogenetic tools*
- 8:35 am      **Karl Deisseroth**, Stanford University  
*Optogenetics: Development and application*
- 9:00 pm      Refreshments available at Bob's Pub

## Monday November 8<sup>th</sup>

- 7:30 am Breakfast
- 9:00 am Session 1: Optogenetics Methodology (Part II)**  
**Chair: Loren Looger**
- 9:00 am **Edward S. Boyden**, Massachusetts Institute of Technology  
*Controlling brain circuits with light: Harnessing ecological diversity and molecular optimization to make new neuroscience tools*
- 9:25 am **Ehud Isacoff**, University of California, Berkeley  
*Lights, cameras, action: Probing the nervous system with light*
- 9:50 am **Klaus M. Hahn**, University of North Carolina  
*Photomanipulation and visualization of signaling in vivo*
- 10:15 am Break
- 10:45 am Session 2: Optogenetics Methodology (Part III)**
- 10:45 am **Dirk Trauner**, Ludwig-Maximilians-Universität München  
*Teaching old receptors new tricks*
- 11:10 am **Anselm C. Levskaya**, University of California San Francisco  
*Optogenetic control of signal transduction via light-gated protein-protein interactions*
- 11:35 am Open discussion on optogenetic tools, led by Loren Looger**
- 12:15 pm Lunch
- 1:00 pm Tour (optional - meet at reception)
- 2:00 pm Session 3: Optogenetics Applications (Part I)**  
**Chair: Julie Simpson**
- 2:00 pm **David J. Anderson**, HHMI/California Institute of Technology  
*Identification of a locus mediating aggression in the murine hypothalamus*
- 2:25 pm **Luis de Lecea**, Stanford University  
*Optogenetic control of the locus coeruleus*
- 2:50 pm **Scott M. Sternson**, Janelia Farm Research Campus/HHMI  
*Optogenetic dissection of feeding circuits*

- 3:15 pm **Ahmed El Hady**, Max Planck Institute for Dynamics and Self Organization  
*Stochastic optical stimulation*
- 3:40 pm Break
- 4:10 pm Session 4: Optogenetics Applications (Part II)**
- 4:10 pm **Antonello Bonci**, National Institutes of Health  
*Optogenetic approaches to understanding reward seeking*
- 4:35 pm **Dima Rinberg**, Janelia Farm Research Campus/HHMI  
*Illuminating olfaction: Optogenetic approach to understand olfactory information processing*
- 5:00 pm **C. Ron Yu**, Stowers Institute for Medical Research  
*Genetic manipulation of neural activity reveals a critical period of olfactory circuit development and functional roles of the olfactory map*
- 5:25 pm Open discussion on optogenetic applications, led by Scott Sternson**
- 6:00 pm Reception
- 7:00 pm Dinner
- 8:00 pm Poster Reception**

## Tuesday November 9<sup>th</sup>

- 7:30 am Breakfast
- 9:00 am Session 5: Optogenetics Applications (Part III)**  
**Chair: Ehud Isacoff**
- 9:00 am **Alexander Gottschalk**, Johann Wolfgang Goethe University  
*Optogenetic analyses of synaptic transmission, networks and behaviour in *Caenorhabditis elegans**
- 9:25 am **Massimo Scanziani**, HHMI/University of California, San Diego  
*Excitation and inhibition in cortical space*
- 9:50 am **Garret Stuber**, The University of North Carolina, Chapel Hill  
*Circuit-specific excitatory neurotransmission in the nucleus accumbens facilitates reward seeking*
- 10:15 am Break
- 10:45 am Session 6: Pharmacological Methods (Part I)**  
**Chair: Antonello Bonci**
- 10:45 am **Bruce Conklin**, Gladstone Institutes, University of California, San Francisco  
*Decoding GPCR-mediated migration, proliferation, electrical excitation in iPS cell-derived tissues using RASSLs*
- 11:10 am **Bryan Roth**, University of North Carolina Chapel Hill Medical School  
*A chemical genetic approach for remotely controlling neuronal and non-neuronal signaling*
- 11:35 pm **Ken D. McCarthy**, University of North Carolina School of Medicine  
*Analysis of astrocyte-neuronal interactions using genetically engineered mice*
- 12:00 pm **Jean-Pierre Changeux**, Institut Pasteur  
*A strategy of stereotaxic gene deletion and re-expression to investigate the contribution of nicotinic receptor genes to nicotine addiction in the mouse*
- 12:25 pm Lunch
- 2:00 pm Session 7: Pharmacological Methods (Part II)**
- 2:00 pm **Ines Ibañez-Tallon**, Max Delbrück Center for Molecular Medicine  
*Manipulating neuronal circuits with endogenous and recombinant cell-surface tethered modulators*

- 2:25 pm **Michael N. Nitabach**, Yale School of Medicine  
*Screening naturally occurring combinatorial libraries of ion channel modifiers*
- 2:50 pm **Peer Wulff**, University of Aberdeen  
*Testing the behavioural relevance of GABAergic interneurons in cortical circuits*
- 3:15 pm Open discussion, led by Luke Lavis (Janelia Farm)**
- 3:45 pm Break
- 4:15 pm Session 8: Other Methods (Part I)**  
**Chair: Michael Nitabach**
- 4:15 pm **Dan Tracey**, Duke University  
*para RNAi is an effective tool for silencing electrical activity of Drosophila neurons*
- 4:40 pm **Mani Ramaswami**, Trinity College Dublin  
*Understanding circuit mechanisms of habituation*
- 5:05 pm **Mark Mayford**, The Scripps Research Institute  
*Genetic manipulation of active circuits*
- 5:30 pm Poster Reception**
- 7:00 pm Dinner
- 8:00 pm Refreshments available at Bob's Pub

## Wednesday November 10<sup>th</sup>

- 7:30 am Breakfast
- 9:00 am Session 9: Other Methods (Part II)**  
**Chair: Scott Sternson**
- 9:00 am **Thomas E. Hughes**, Montana State University  
*Two photon properties of fluorescent proteins*
- 9:25 am **Hongkui Zeng**, Allen Institute for Brain Science  
*Cell-type specific mouse genetic toolkit system for probing neural circuits*
- 9:50 am **Charles Gerfen**, National Institutes of Health  
*BAC-Cre driver lines for functional study of brain circuits: The GENSAT project*
- 10:15 am **Andrew Woolley**, University of Toronto  
*Designing photo-controlled bZIP type transcription factors*
- 10:40 am Break
- 11:10 am Open discussion, led by the organizers**
- 12:15 pm Lunch and Departure (To-go boxes available in servery for those on first shuttle)
- 12:30 pm First shuttle to Dulles  
1:15 pm Second shuttle to Dulles  
2:00 pm Last shuttle to Dulles