



# Center for Multiscale Imaging of Brain Function

## FOUNDATIONS OF BRAIN IMAGING 2018

### Mini-symposium

#### Meeting Agenda

The Booker Conference Room Jacobs Hall (EBU1) #2512

#### Monday May 14, 2018

9:00am-9:05am Introduction  
**Anna Devor** (Co-Director for the Center for Multiscale Imaging of Brain Function, UCSD)

9:05am-9:20am Welcome Address  
**James Brewer** (Chair of Neurosciences, UCSD)

#### Session I: Brain activity across scales and measurement modalities

9:20am-9:50am **Takaki Komiyama** (UCSD)  
Large scale imaging of neuronal circuits with 2-photon resolution during learning

9:50am-10:05am Q&A

10:05am-10:35am **Sava Sakadzic** (Martinos Center for Biomedical Imaging, MGH/Harvard)  
Two-photon imaging of O<sub>2</sub> in the brain and modeling of O<sub>2</sub> transport

10:35am-10:50am Q&A

10:50am-11:00am **BREAK - Coffee and tea**

11:00am-11:30am **Rick Buxton** (UCSD)  
Advancing methodology for quantitative measurements of the dynamics of cerebral blood flow and O<sub>2</sub> consumption

11:30am-11:45am Q&A

11:45am-12:15pm **Lawrence Wald** (Martinos Center for Biomedical Imaging, MGH/Harvard)  
New directions for noninvasive brain imaging

12:15pm-12:30pm Q&A

12:30pm-1:00pm **LUNCH (Provided)**

## **Session II: Progress Reports**

- 1:00pm-1:15pm **Xin Yu** (*Max Planck Institute for Biological Cybernetics, Tübingen, Germany, and Martinos Center for Biomedical Imaging, MGH/Harvard*)  
Concurrent extracellular glutamate signal recording with fMRI
- 1:15pm-1:30pm **Xiaojun Cheng** (*Boston University*)  
Underpinning of BOLD model parameters in real microvascular networks
- 1:30pm-1:45pm **Michèle Desjardins** (*UCSD, and Université Laval, Canada*)  
From 2-photon microscopy to BOLD fMRI in awake behaving mice
- 1:45pm-2:00pm **Olivia Viessmann** (*Martinos Center for Biomedical Imaging, MGH/Harvard*)  
The effect of cortical orientation to B0- and phase-encode axes in high-resolution resting-state BOLD fMRI
- 2:00pm-2:15pm **Edward Zagha** (*UC Riverside*)  
Experimental paradigms for studies of neuronal circuits underlying behavior in mice
- 2:15pm-2:30pm **BREAK - Coffee and tea**
- 2:30pm-2:45pm **Rui Liu** (*UCSD*)  
Adaptive Optics for deep 2-photon imaging of brain activity at submicron resolution
- 2:45pm-3:00pm **Sanaz Sadegh** (*UCSD*)  
High efficiency and low background 2-photon imaging with non-degenerate excitation
- 3:00pm-3:15pm **Martin Thunemann** (*UCSD*)  
Propagation of light in brain tissue
- 3:15pm-3:30pm **Nicholas Rogers** (*UCSD*)  
3D electrophysiology for informed interpretation of surface potentials
- 3:30pm-3:45pm **Yichen Lu** (*UCSD*)  
Deep 2-photon imaging and artifact-free optogenetics through transparent graphene microelectrode arrays
- 3:45pm-4:00pm **CONCLUDING REMARKS and ADJOURN**