



Center for Multiscale Imaging of Brain Function

FOUNDATIONS OF NONINVASIVE HUMAN BRAIN IMAGING

Mini-symposium

Meeting Agenda

The Booker Conference Room Jacobs Hall (EBU1) #2512

Tuesday May 9, 2017

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

9:05am-9:15am Welcome Address
Sandra Brown (Vice Chancellor for Research, UCSD)

Session I: From microvascular dynamics to fMRI signals

9:15am-9:45am **David Boas** (Center for Neurophotonics, Boston University)
Reverse engineering of fMRI signals

9:45am-10:00am Q&A

10:00am-10:30am **Jonathan Polimeni** (Martinos Center for Biomedical Imaging, MGH/Harvard)
Improving human fMRI through modeling and imaging microvascular dynamics

10:30am-10:45am Q&A

10:45am-11:00am **BREAK - Coffee and tea**

11:00am-11:30am **Joseph Mandeville** (Martinos Center for Biomedical Imaging, MGH/Harvard)
Imaging cerebral blood volume, flow, and oxygenation with fMRI

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

11:45am-12:15pm **Xin Yu** (Max Planck Institute for Biological Cybernetics, Tübingen, Germany)
Multimodal high field fMRI platform

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

12:30pm-1:00pm **LUNCH**

Session II: Progress Reports

- 1:00pm-1:15pm ***Eric Wong (UCSD)***
Nanodevice-mediated fMRI of electrical activity, and computer modeling of whole brain fMRI dynamics
- 1:15pm-1:30pm ***Jin Zhang (UCSD)***
Probing intracellular signaling pathways
- 1:30pm-1:45pm ***Phillip Kyriakakis (UCSD)***
From synthetic metabolism to optogenetics with the Fd-FNR system
- 1:45pm-2:00pm ***Adrian Lozada (UCSD)***
Realization of optical cell-based reporters for in vivo detection of neurotransmitters
- 2:00pm-2:15pm ***Christopher Ferri (UCSD)***
Multicolor 2-photon excitation for brighter optical probes
- 2:15pm-2:30pm ***Kıvılcım KILIÇ / Lorraine Hossain (UCSD)***
Towards optical windows with integrated electrode arrays for chronic multimodal electrophysiological/optical recordings
- 2:30pm-2:45pm ***Céline Matéo (UCSD)***
Resting state connectivity: Biophysical basis with optical microscopy
- 2:45pm-3:00pm ***Martin Thunemann (UCSD)***
Deep 2-photon microscopy and optogenetics to dissect mechanisms of cell-type-specific cerebrovascular regulation
- 3:00pm **CONCLUDING REMARKS and ADJOURN**