BARRELS XXIX Program

10-11 November 2016

Brain and Creativity Institute
University of Southern California, Los Angeles

Thursday, November 10

9:00 – 9:05	Welcome: **Joshua Brumberg**, Queens College, CUNY
	Thalamocortical Interactions in Motor Control
9:05 – 9:15	Introduction/Overview: **Garrett Stanley**, Georgia Tech
9:15 – 9:45	**Carl Petersen** EPFL *Neural circuits for goal-directed sensorimotor transformation*
9:45 – 10:15	**Bernardo Sabatini**, Harvard *Signaling in the cortex-basal ganglia-thalamus loop during action selection*
10:15 – 10:45	**Naoki Yamawaki**, Northwestern Thalamo-cortico-thalamic circuits in the motor system
10:45 – 11:15	**Dieter Jaeger**, Emory *Neural circuits for goal-directed sensorimotor transformation*
11:15 – 11:45	**Discussion**
11:45 – 12:00	**Coffee Break**
	Short Platform Talks 1 **(**Moderator: **Alison Barth**)
12:00 – 12:15	**Christian Ebbesen, Guy Doron, Constanze Lenschow & Michael Brecht,** Berstein and Humboldt-Universität *Vibrissa motor cortex activity suppresses contralateral whisker touch.*
12:15 – 12:30	**Edward Zagha**, UC Riverside *Modulation of sensory processing by cortical feedback pathways*
12:30 – 12:45	**Julian Hofmann, Bettina Joachimsthaler & Cornelius Schwarz,** Tübingen *The role of mouse barrel cortex in tactile trace eye blink conditioning*
12:45 – 1:00	**Discussion**
1:00 – 2:30	**Lunch Break**
	Touch in Rodent, Monkey, and Man
2:30 – 2:40	Introduction/Overview: **Andrew Pruszynski,** Western University, Canada *Feature extraction in the human tactile periphery*
2:40 – 3:10	**Silman Bensmaia**, Chicago *The neural basis of texture perception in primates*
3:10 – 3:40	**Mitra Hartmann**, Northwestern *"Grasping" with whiskers*
3:40 – 4:10	**Gerald Loeb**, USC and SynTouch *Understanding human haptics by building robotic systems*
4:10 – 4:40	**Andrew Pruszynski**, Western University, Canada *Feature extraction in the human tactile periphery*
4:40 – 5:00	**Discussion**
5:10 – 5:30	**Break**
5:30 – 8:00	**Poster Session**
6:30	**Dinner**

Friday, November 11

Short Platform Talks 2 **(**Moderator: **Randy Bruno)**

9:00 – 9:15 **Naoya Takahashi & Matthew Larkum,** Humboldt University
Dendritic dynamics in sensory perception

9:15 – 9:30 **William Muñoz, Robin Tremblay, Daniel Levenstein & Bernardo Rudy,** NYU
Layer-specific reorganization of neocortical dendritic inhibition during active wakefulness.

9:30 – 9:45 **Jianing Yu, Ariel Agmon & Karel Svoboda,** HHMI Janelia
Cell-type-specific temporal dynamics of GABAergic interneurons in mouse barrel cortex during active sensation.

9:45 – 10:00 **Mirko Witte, Florian Walker, Dirk Schubert, Michael Feyerabend, Martin Möck & Jochen Staiger,** University Medicine Göttingen
Temporally distinct inhibitory control of Martinotti cells by PV- and VIP-cells

10:00 – 10:15 **Shane Crandall, Saundra Patrick, Scott Cruikshank & Barry Connors,** Brown
Infrabarrels: Ensembles of structurally and functionally distinct neurons in layer 6a of mouse somatosensory cortex.

10:15 – 10:30 **Discussion**

10:30 – 11:00 **Coffee Break**

Short Platform Talks 3 **(**Moderator: **Jochen Staiger)**

11:00 – 11:15 **Sunmee Park, Akhil Bandi, Christian Lee & David Margolis,** Rutgers
New ways to wiggle whiskers: optogenetic control of whisker movement and active sensation.

11:15 – 11:30 **Yan Yu*, Matthew Graff***, **Chris Bresee, Yan Man & Mitra Hartmann,** Northwestern
Rat whiskers are used in airflow sensing

11:30 – 11:45 **Mostafa Nashaat, Hatem Oraby, Laura Blanco, Sina Dominiak, Matthew Larkum & Robert Sachdev,** Humboldt Universität
Pixying Behavior: Real time optical tracking of whisker motion in a real-world floating maze.

11:45 – 12:00 **Discussion**

12:00 – 12:30 **Directed Discussion: Ideas, Theories, Techniques.**

12:30 – 2:00 **Lunch Break**

Cortical Multisensory Computations

2:00 – 2:10 Introduction/Overview: **Nader Nikbakht**, SISSA

2:10 – 2:40 **Brice Bathellier**, CNRS
Uni and multisensory processing of looming and receding stimuli in mouse cortex

2:40 – 3:10 **Jan Drugowitsch**, Harvard
Optimal multisensory integration under time pressure

3:10 – 3:40 **Conrad Lee**, Australian National University
Neuronal correlates of sensory prioritization in rats

3:40 – 4:10 **Nader Nikbakht, Davide Zoccolan & Mathew Diamond,** SISSA
Visual tactile integration in rats and underlying neuronal mechanisms

4:10 – 4:30 **Discussion**

4:30 **Adjourn - Andrew Hires Party or travel to SfN at San Diego**