

Thursday June 26

7:30AM - 9AM Breakfast and registration

Ethnic Cultural Center Theater, 3931 Brooklyn Ave NE

8:50AM-9AM Introductory remarks

Session Chair: Markus Meister

9AM-9:30AM **Christof Koch**, *Allen Institute for Brain Science*

Exploring Cortex in a High-Throughput Manner

9:30AM-10AM **David A McCormick**, *Yale University*

Denosing the brain by careful monitor of state

10AM-10:30AM **Vasileios Christopoulos**, *Caltech*

A neural computational theory for value integration in decisions with competing alternatives

10:30AM-11AM Break

11AM-11:20AM **Xiao-Jing Wang**, *New York University*

The large-scale network of primate cortex:
structure and dynamics

11:20AM-11:40AM **Daniel Ferrante**, *Cold Spring Harbor Laboratory*

Statistical Model of Evolution of Brain Regions

11:40AM-12PM **Larry Abbott**, *Columbia University*

Task Switching and Sequencing through Thalamocortical Loops Controlled by the Basal Ganglia

12PM-12:45PM **Eric Shea-Brown**, *University of Washington*

Assembling collective activity in neural circuits

12:45PM-2PM Lunch and Director's meeting

Session Chair: Haim Sompolinsky

- 2PM-2:30PM **Nao Uchida**, *Harvard*
Arithmetic of dopamine prediction errors
- 2:30PM-3PM **Paul Miller**, *Brandeis*
Non-sticky attractors in models of cortical processing
- 3PM-3:20PM **Roозbeh Kiani**, *New York University*
Neural mechanism of strategic adjustment of decision policy in parietal cortex
- 3:20PM-3:45PM Break
- 3:45PM-4:15PM **Ralf Haefner**, *Brandeis*
Perceptual decision-making as probabilistic inference: implications for the correlations between stimulus, neuronal responses, and behavior
- 4:15PM-4:45PM **Joseph Makin**, *UCSF*
Models of Computation in Posterior Parietal Cortex
- 4:45PM-5:30PM **Ila Fiete**, *University of Texas*
Population coding in cortex: limits from representation and dynamics
- 5:30PM-9PM Dinner and poster viewing (*Meany Hall Lobby*)

Friday June 27

- 7:30AM-8:45AM Breakfast and registration

Session Chair: Ken Miller

- 8:45AM-9:30AM **Chris Eliasmith**, *University of Waterloo*
Advances and challenges in large-scale brain modeling
- 9:30AM-9:50AM **Sandro Romani**, *Columbia University*

Network Model of Sequential Dynamics in Hippocampal Circuits

9:50AM-10:10AM

Marcus Benna, *Columbia University*

Improving Long-Term Memory with Complex Synapses

10:10AM-10:30AM

Break

10:30AM-11AM

Hiroki Asari, *Caltech*

Feedback from retinal ganglion cells to the inner retina

11AM-11:30AM

Jamie Mazer, *Yale University*

Stabilizing visual and attention representations during natural vision

11:30AM-12PM

James Fitzgerald, *Harvard University*

Computational Heterogeneity in Visual Motion Estimation

12PM-12:45PM

Mala Murthy, *Princeton University*

Neural Computations Underlying Acoustic Communication in *Drosophila*

12:45PM-2PM

Lunch

Session Chair: John Rinzel

2PM-2:30PM

Gideon Rothschild, *UCSF*

Coordinated activation and reactivation of behaviorally-related hippocampal-prefrontal ensembles

2:30PM-2:50PM

Sam Lewallen, *Princeton University*

Grid cell dynamics on linear tracks

2:50PM-3:20PM

James Rankin, *New York University*

Differential effects of stimulus strength and volitional control in auditory streaming

3:20PM-3:45PM

Break

- 3:45PM-4:05PM **Bingni Brunton**, *University of Washington*
Extraction of sleep spindle networks from ECoG using dynamic mode decomposition
- 4:05PM-4:25PM **Matt Kaufman**, *Cold Spring Harbor Laboratory*
Understanding mixed selectivity in rat parietal cortex
- 4:25PM-4:55PM **Mike Avery**, *Salk*
Modeling optogenetic manipulation of neural circuits in macaque visual cortex
- 4:55PM-5:40PM **Adrienne Fairhall**, *University of Washington*
- 6PM-10PM Banquet Dinner (*Lake Union Cafe, 3119 Eastlake Ave E*)
- Saturday June 28**
- 7:30AM-9AM Breakfast and registration
- Session Chair: Bill Bialek**
- 9:00AM-9:45AM **Christian Machens**, *Champalimaud Institute*
Optimal Compensation for Neuron Death
- 9:50AM-10:10AM **Monika Jadi**, *Salk*
Cortical Oscillations Arise from Contextual Interactions that Regulate Sparse Coding
- 10.10AM-10:30AM **Gordon Berman**, *Princeton University*
Quantitative analysis of behavior in walking flies
- 10:30AM-11:00AM Break
- 11:00AM-11:20AM **Cian O'Donnell**, *Salk*
Selective memory generalization by spatial patterning of protein synthesis

11:20AM-11:40AM

Alex Koulakov, *Cold Spring Harbor Laboratory*

11:40AM-12PM

Jinseop Kim, *Princeton University*

How to wire a motion detector: mechanism of a direction-selective retinal neuron

12PM

Closing remarks