Sunday, September 17

**Talks are 20 minutes +
5 minutes for Q&A**

3:00 pm Check-in

6:00 pm Reception *(Lobby)*

7:00 pm Dinner

8:00 pm **Welcome & Opening Remarks**
Tim Ryan & Jennifer Lippincott-Schwartz

8:05 pm **Session 1: Gene expression & protein synthesis in neuron function (I)**
Chair: Jennifer Lippincott-Schwartz

8:05 pm **Robert H. Singer**, Albert Einstein College of Medicine
Following single mRNAs in living neuronal cells and tissues

8:30 pm **Kelsey Martin**, University of California, Los Angeles
Regulating gene expression during long-term neuronal plasticity

8:55 pm Refreshments available at Bob's Pub

NOTE:
Meals are in the **Dining Room**
Talks are in the large **Auditorium**
Posters are in the **Lobby**

Monday, September 18

Talks are 20 minutes + 5 minutes for Q&A

7:30 am Breakfast *(service ends at 8:45am)*

9:00 am **Session 2: How to compartmentalize the biology you need (I)**
Chair: Tim Ryan

9:00 am **Pietro V. De Camilli**, HHMI/Yale University
Synaptic vesicle clusters at synapses: A liquid phase?

9:25 am **Chenghua Gu**, Harvard University
Transcytosis regulation at the blood-brain barrier

9:50 am **Juan S. Bonifacino**, National Institute of Child Health and Human Development/NIH
Mechanisms of lysosome distribution in non-neuronal and neuronal cells

10:15 am **Yishi Jin**, University of California, San Diego
Neuronal circuit remodeling in C. elegans

10:40 am Break

11:10 am **Session 3: New tools for neuron biology: Advances in EM**
Chair: Kelsey Martin

11:10 am **Harald F. Hess**, Janelia Research Campus/HHMI
Large volume 3D imaging by FIB-SEM and cryo-fluorescence for cell biology and neural circuits

11:35 am **Mark H. Ellisman**, University of California, San Diego
Toward making the invisible and complicated understandable in circuits and cells of nervous systems: Recent progress in multi-scale multi-modal imaging

12:00 pm Lunch *(service ends at 1pm)*

1:30 pm **Session 4: Rules for organizing postsynaptic compartments**
Chair: Aaron Gitler

1:30 pm **Andres V. Maricq**, University of Utah
A MAP kinase signaling complex regulates the transport of synaptic glutamate receptors

1:55 pm **Nicola J. Allen**, Salk Institute for Biological Studies
Astrocyte regulation of neuronal glutamate receptors

2:20 pm **Thomas A. Blanpied**, University of Maryland School of Medicine
Nanostructure-function relationship at single synapses

2:45 pm Break

3:15 pm **Session 5: Approaching disease states**
Chair: Chenghua Gu

3:15 pm **Richard J. Youle**, National Institute Neurological Disorders and Stroke/NIH
Autophagy functions of genes mutated in ALS and Parkinson's disease

3:40 pm **Aaron D. Gitler**, Stanford University
CRISPR-Cas9 screens in human cells and primary neurons identify modifiers of C9orf72 dipeptide repeat protein toxicity

4:05 pm **Joshua M. Kaplan**, Harvard Medical School
From compost to the clinic: Using C. elegans to study psychiatric disorders

4:30 pm Break

4:45 pm **Poster Blitz**! *(2-minutes / 1-slide each)*

Mian Cao, Yale University
Yu-Chieh (David) Chen, University of California Riverside
Sulagna Das, Albert Einstein College of Medicine
Jaime de Juan-Sanz, Weill Cornell Medical College
Sai Sachin Divakaruni, University of Maryland School of Medicine
Shawn Ferguson, Yale University
Edward Hujber, University of Utah
Ira Milosevic, European Neuroscience Institute
Kate O'Connor-Giles, University of Wisconsin-Madison
Cahir O'Kane, University of Cambridge
Niamh O'Sullivan, University College Dublin
Martin Pauli, Wuerzburg University
Orly Reiner, Weizmann Institute of Science
Pei-I Tsai, University of California, San Francisco
Jill Wildonger, University of Wisconsin-Madison
` **Quan Yuan,** National Institute of Neurological Disorders and Stroke/NIH

5:30 pm **Poster Viewing Reception**

7:15 pm Dinner

8:15 pm Refreshments available at Bob's Pub

Tuesday, September 19

Talks are 20 minutes + 5 minutes for Q&A

7:30 am Breakfast *(service ends at 8:45am)*

9:00 am Session 6: Axons in life & death
Chair: Tom Schwarz

9:00 am **Aaron DiAntonio**, Washington University School of Medicine
Axon degeneration: Molecular mechanisms and therapeutic potential

9:25 am **Marc Hammarlund**, Yale University
Cell biology of functional axon regeneration

9:50 am **Rosalind Segal**, Dana-Farber Cancer Institute/Harvard Medical School
SFPQ coordinates an RNA regulon to prevent axonal degeneration

10:15 am **Craig Blackstone**, National Institute Neurological Disorders and Stroke/NIH
Shaping the endoplasmic reticulum in neurons: insights from the hereditary spastic paraplegias

10:40 am Break

11:10 am Session 7: New tools for neuron biology: Shining light
Chair: Nicola Allen

11:10 am **Luke D. Lavis**, Janelia Research Campus/HHMI
Designing brighter dyes for advanced fluorescence microscopy

11:35 am **Markus Sauer**, University of Würzburg
Mapping of synaptic proteins by super-resolution microscopy

12:00 pm Lunch *(service ends at 1pm)*

12:30 pm Tour *(optional – meet at reception)*

1:30 pm Session 8: How to compartmentalize the biology you need (II)
Chair: Rosalind Segal

1:30 pm **Lukas C. Kapitein**, Utrecht University
Mechanism of selective motor entry into axons

1:55 pm **Casper Hoogenraad**, Utrecht University / Genentech
Mechanisms of axon formation: Microtubule remodeling and cargo sorting

2:20 pm **Thomas L. Schwarz**, Harvard Medical School
Moving and removing axonal mitochondria

2:45 pm **Jennifer Lippincott-Schwartz**, Janelia Research Campus/HHMI
Spatial and temporal dynamics of subcellular organelles within neurons

3:10 pm Break

3:40 pm **Session 9: Novel aspects of signal control in cell biology**
Chair: Kang Shen

3:40 pm **Ryohei Yasuda**, Max Planck Florida Institute for Neuroscience
Biochemical computation in single synapses

4:05 pm **Mark von Zastrow**, University of California, San Francisco
GPCRs trafficking in axons

4:30 pm **Sergio Grinstein**, The Hospital for Sick Children
Receptor mobility is regulated by the cytoskeleton connected to an exoskeleton via transmembrane pickets: Role in phagocytosis

4:55 pm Break

5:15 pm **Session 10: Postdoc talks *(12 min + 3 min Q&A)***
Chair: Erik Jörgensen

5:15 pm **Ghazaleh Ashrafi,** Weill Cornell Medical College
Metabolic regulation of presynaptic function

5:30 pm **Alyssa Johnson,** University of California, San Francisco
Defects in a dynamic tubular lysosomal network drive age-related degeneration of neurons and muscle

5:45 pm **Peri Kurshan,** Stanford University
How do pro- and anti-synaptogenic signals interact to specify synapses?

6:00 pm **David Simon,** Stanford University
Control of sensory axon degeneration by the neuronal cell body

6:15 pm **Poster Viewing Reception**

7:30 pm Dinner

8:30 pm Refreshments available at Bob's Pub

Wednesday, September 20

**Talks are 20 minutes +
5 minutes for Q&A**

7:30 am Breakfast *(service ends at 8:45am)*

9:00 am Session 11: Control of presynaptic function
Chair: Yishi Jin

9:00 am **Graeme W. Davis**, University of California, San Francisco
The stable brain: Molecular mechanisms of homeostatic plasticity

9:25 am **Timothy A. Ryan**, Weill Cornell Medical College
Novel regulators of synapse function

9:50 am **Erik M. Jörgensen**, HHMI/University of Utah
Kinetic block of ultrafast endocytosis in synaptojanin mutants

10:15 am Break

10:45 am Session 12: Gene expression & protein synthesis in neuron function (II)
Chair: Aaron DiAntonio

10:45 am **Erin Schuman**, Max Planck Institute for Brain Research
mRNAs and protein synthesis in dendrites

11:10 am **Kang Shen**, HHMI/Stanford University
A mRNA nuclear export complex as a master regulator of synaptogenesis

11:35 pm Conclusion / Lunch / Departure *(lunch service ends at 1pm)*

12:15 pm First shuttle to Dulles
1:15 pm Second shuttle to Dulles
2:15 pm Last shuttle to Dulles