

PRELIMINARY PROGRAM

NOVEMBER 3 – 7 • SAN DIEGO, CA



SOCIETY *for*
NEUROSCIENCE

EXPERIENCE **THE JOY OF SCIENCE** AT THE SOCIETY FOR NEUROSCIENCE'S **48TH ANNUAL MEETING**

Join your colleagues from across the globe for five days of scientific collaboration, innovation, education, and peer networking — all while enjoying the culture, nightlife, and mild climate of San Diego, a thriving coastal city.

DISCOVER TECHNOLOGICAL AND SCIENTIFIC ADVANCEMENTS

Explore the Exhibit Hall, where hundreds of exhibiting companies and thousands of poster presenters showcase and discuss the latest scientific research and technologies.

FURTHER YOUR EDUCATION

Take advantage of on-site resources to help you achieve your educational goals — including workshops, training courses, and the Graduate School Fair.

NETWORK

Visit the NeuroJobs Career Center to explore professional positions in neuroscience, or attend social or mentoring events to meet your colleagues, forge new connections, and grow your network.

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Save on Neuroscience 2018 registration by joining SfN or renewing your membership and registering early. Students and residents of developing countries are eligible for even further savings.

For more information, visit [SfN.org/prelim18](https://www.sfn.org/prelim18)

Program details are preliminary and subject to change.



PRESIDENTIAL SPECIAL LECTURES



The dArc Matter of Synaptic Communication

Vivian Budnik, PhD / University of Massachusetts Medical School / Saturday, Nov. 3, 5:15–6:30 p.m.

Recent advances in cell biology have uncovered new mechanisms by which synaptic partners in the nervous system communicate. These include the release and uptake of extracellular vesicles, such as exosomes and microvesicles, which carry proteins and RNAs. They also involve the use of mechanisms resembling those used by viruses during infection. The discovery of these mechanisms is offering new perspectives for our understanding of synapse development and plasticity. **CME**



Neurobiology of Social Behavior Circuits

Catherine Dulac, PhD / Harvard University, Howard Hughes Medical Institute / Sunday, Nov. 4, 5:15–6:30 p.m.

Social interactions are essential for animals to reproduce, defend their territory, and raise their young. This lecture will describe new data aimed at deciphering the identity and functioning principles of neural circuits underlying various social behaviors, with an emphasis on a particularly important form of social interaction: parental care. This lecture will discuss how these findings open new avenues to deconstruct the neural bases of maternal and paternal behaviors and may help to further understanding of variations in the neural control of parenting in different animal species. **CME**



From Nanoscale Dynamic Organization to Plasticity of Excitatory Synapses and Learning

Daniel Choquet, PhD / CNRS, University of Bordeaux / Monday, Nov. 5, 5:15–6:30 p.m.

Regulation of receptor trafficking has emerged as a key mechanism for activity-dependent plasticity of synaptic transmission, a process important for learning and memory. The advent of super-resolution microscopy and single-molecule tracking has helped to uncover the intimacy of synapse dynamic organization at the nanoscale. Using new tools for further understanding the link between receptor dynamics and synapse plasticity is unveiling some of the molecular mechanisms of learning in the healthy and diseased brain. **CME**



From Salvia Divinorum to LSD: Toward a Molecular Understanding of Psychoactive Drug Actions

Bryan L. Roth, MD, PhD / University of North Carolina at Chapel Hill / Tuesday, Nov. 6, 5:15–6:30 p.m.

How do psychoactive drugs as diverse as the potent hallucinogen LSD and the atypical antipsychotic drug clozapine exert their actions at the molecular level? This lecture will first show how research has illuminated the molecular targets responsible for the actions of psychoactive drugs. It will then illustrate how structural insight into psychoactive drug actions can be leveraged to create potentially safer and more effective medications for many neuropsychiatric disorders. **CME**

FEATURED LECTURES

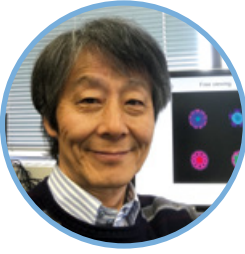
PETER AND PATRICIA GRUBER LECTURE / DECISION, REWARD, AND THE BASAL GANGLIA / SUPPORT CONTRIBUTED BY: THE GRUBER FOUNDATION



The Striatum and Decision-Making Based on Value

Ann M. Graybiel, PhD / McGovern Institute for Brain Research at the Massachusetts Institute of Technology / Sunday, Nov. 4, 2:30–3:40 p.m.

The striatum was once thought to be a primitive part of the forebrain, despite evidence that basal ganglia dysfunction underlies major extrapyramidal disorders. Our work has contributed to the surprising realizations that the striatum actually has a sophisticated compartmental structure, that striatal circuits are implicated in decision-making and in neuropsychiatric as well as motor disorders, and that special modules in the striatum, called striosomes, are focal points in circuits linking mood-related neocortex with midbrain dopamine-containing neurons and other neuromodulatory regions. The striatum thus modulates a broad range of circuits affecting our behavioral state in health and disease.



Parallel Basal Ganglia Circuits for Cooperative and Competitive Decision-Making

Okihide Hikosaka, MD, PhD / National Eye Institute, NIH / Sunday, Nov. 4, 2:30–3:40 p.m.

The basal ganglia control active behavior by disinhibiting a goal-directed action while inhibiting irrelevant actions. This is based on short-term and long-term memories, which are selectively processed in parallel circuits in the basal ganglia including dopamine neurons. These parallel circuits, together or separately, are essential for engendering motivation, attention, and skill.



About Reward

Wolfram Schultz, MD / University of Cambridge / Sunday, Nov. 4, 2:30–3:40 p.m.

The talk will describe the properties of neurons in the brain’s reward systems and how their action contributes to economic decision-making. Each of several reward systems, including those involving the dopamine neurons, striatum, amygdala, and orbitofrontal cortex, plays a unique role in this process. The details of this function are currently being investigated using designs based on behavioral theories, such as animal learning theory, machine learning, and economic utility theory.

DIALOGUES BETWEEN NEUROSCIENCE AND SOCIETY / SUPPORT CONTRIBUTED BY: ELSEVIER

Music and the Brain

Pat Metheny / Musician & Composer / Saturday, Nov. 3, 11 a.m.–1 p.m.

Music is a universal language and a powerful force in the world. It can have an incredible impact on our brain and easily make us cry or bring us joy. Just a few notes of a song can cause us to remember memories long past. Pat Metheny is a legendary jazz guitarist who understands the power of music. He has received three gold albums and 20 Grammy Awards. In this dialogue, Mr. Metheny will discuss, with a panel of SfN members, the impact of music on the brain and on our emotions and memory, as well as the process of creativity in music, art, and science.



DAVID KOPF LECTURE ON NEUROETHICS / SUPPORT CONTRIBUTED BY: DAVID KOPF INSTRUMENTS

When Is an Adolescent an Adult?: Implications for Justice Policy

B.J. Casey, PhD / Yale University / Monday, Nov. 5, 10–11:10 a.m.

Advances in brain imaging techniques are providing new insight as to why adolescents experience and respond to the world in unique ways. These developmental findings have influenced a series of Supreme Court decisions on the treatment of adolescents. Now, emerging evidence of developmental changes in the brains of young adults (ages 18 to 21) suggest that they, too, may be immature in ways that are relevant to justice policy.

ALBERT AND ELLEN GRASS LECTURE / SUPPORT CONTRIBUTED BY: THE GRASS FOUNDATION

Neural Sequences in Memory and Cognition

David W. Tank, PhD / Princeton University / Monday, Nov. 5, 3:15–4:25 p.m.

The BRAIN Initiative is transforming neuroscience through improved methods for large-scale neural recording at cellular resolution. The application of these methods during working memory, decision-making, and navigation tasks has repeatedly demonstrated sequences of activity across the recorded neural population that tile the behavior. New analysis and modeling efforts are providing clues as to the functional roles and mechanisms of this widely observed form of neural circuit dynamics. **CME**



HISTORY OF NEUROSCIENCE LECTURE

Deciphering Neural Circuits: From the Neuron Doctrine to the Connectome

Marina Bentivoglio, MD / University of Verona / Tuesday, Nov. 6, 2:30–3:40 p.m.

Neurons need to communicate, and they do so in neural circuits on which brain function is built. Our evolving understanding of neuronal connectivity of unfathomable complexity is key to progress in neuroscience. The enunciation in 1891 of the Neuron Doctrine led to the explosion of neuroscience in the 20th century; since the beginning of the 21st century, connectomics has introduced novel concepts, igniting hopes to crack the code of the human brain. Traversing the itinerary of paradigm shifts in the understanding of neural circuits, this lecture will highlight current challenges and foci of research.

SPECIAL LECTURES



THEME A: DEVELOPMENT

Genetic Specification of Neuronal Identity

Oliver Hobert, PhD / Columbia University

How is the enormous diversity of cell types in a nervous system genetically specified? The answer to this question lies in defining the gene regulatory mechanisms that control the expression of neuron type-specific gene batteries. In this lecture, studies on the genetic specification of many different neuronal cell types in the nematode *C. elegans* that have led to the discovery of some commonly used strategies, by which diverse neuronal identities are instructed, will be discussed. **CME**



THEME B: NEURAL EXCITABILITY, SYNAPSES, AND GLIA

Neuronal Diversity Within the Ventral Tegmental Area and Co-Release of Neurotransmitters

Marisela Morales, PhD / National Institute on Drug Abuse, NIH

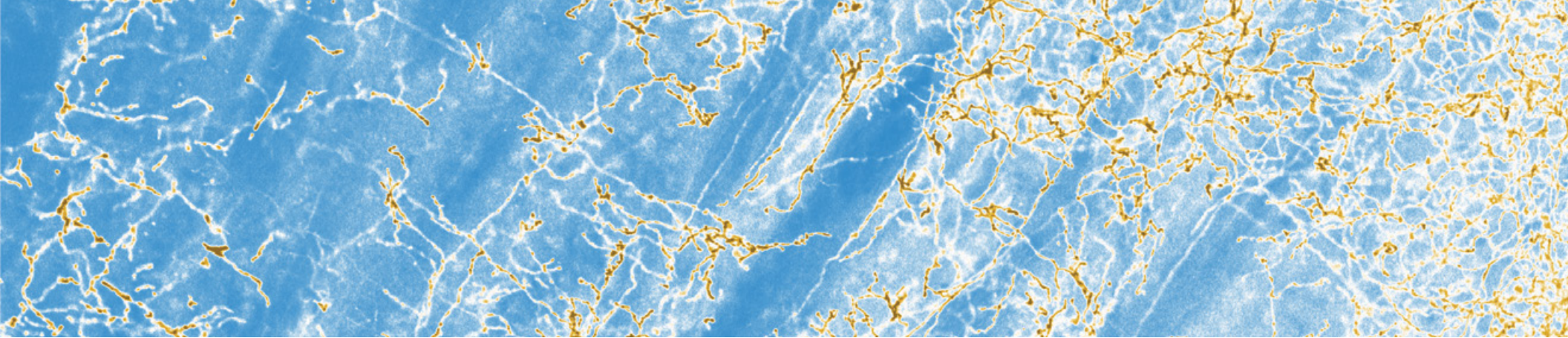
The release of several neurotransmitters from a single neuron has been recognized for decades. Emerging evidence has shown that the adult brain has subpopulations of neurons with the capability to accumulate vesicular glutamate and GABA for their synaptic release. This lecture will focus on the key findings and proposed molecular and cellular models for the co-release of glutamate and GABA and discuss its implications for human health. **CME**



Biochemical Computation in Postsynaptic Compartments: Implications for Synaptic Plasticity, Learning, and Memory

Ryohei Yasuda, PhD / Max Planck Florida Institute for Neuroscience

Dendritic spines are postsynaptic compartments that contain biochemical signaling cascades important for synaptic plasticity, learning, and memory. Signaling events in dendritic spines are mediated by molecular networks composed of hundreds of signaling proteins. This lecture will discuss how the spatiotemporal dynamics of these networks play roles in transforming rapid Ca2+ pulses into long-lasting protein activity, which is coordinated throughout different subcellular compartments necessary for the induction of synaptic plasticity. **CME**



THEME C: NEURODEGENERATIVE DISORDERS AND INJURY

CLINICAL NEUROSCIENCE LECTURE: From Axon Regeneration to Functional Recovery After CNS Injury

Zhigang He, PhD / Boston Children's Hospital

In the adult mammalian CNS, the inability of injured axons to regenerate contributes to unrecoverable functional deficits. This lecture will present recently uncovered cellular and molecular mechanisms regulating the processes of neuronal injury responses and axon regeneration. Further discussion will focus on the progress in developing effective strategies to promote axon regeneration and functional recovery in experimental injury models *in vivo*, such as spinal cord injuries and optic nerve crush. **CME**



Understanding Regeneration of Complex Body Parts

Elly M. Tanaka, PhD / Research Institute of Molecular Pathology

Regeneration of the nervous system and complex body structures, while minimal in humans, is observed in many animals, including vertebrates. How does injury trigger replacement of the missing portion of an organ? Recent advances in imaging and gene editing technologies have allowed us to identify molecular programs that control regeneration and the cells that execute these programs. This lecture will describe how the time-, space- and tissue-dependent responses to organ injury choreograph a molecular program that induces the regeneration of missing body structures. **CME**



THEME D: SENSORY SYSTEMS

Sensorimotor Circuits for Social Communication

Mala Murthy, PhD / Princeton University

Social interactions require continually adjusting behavior in response to sensory feedback from a partner. This lecture will focus on the computations and neural mechanisms that underlie the processing of dynamic sensory information to flexibly guide social behaviors. In particular, this lecture will highlight recent discoveries using the acoustic communication system of *Drosophila* to characterize sensorimotor circuits for both song production and perception and will put these discoveries in the broader context of research on social communication across model systems. **CME**

SPECIAL LECTURES (CONT.)



A Genetic Roadmap to Understanding Auditory Perception Mechanisms

Christine Petit, MD, PhD / Institut Pasteur and Collège de France

The molecular mechanisms underlying auditory system development and function remained unknown until they were unlocked by genetic dissection. This lecture will show how the hundreds of causal genes for deafness have revealed the molecular basis of sound detection and processing in the cochlea. Recent results extend genetic dissection to the identity and functional connectivity of auditory cortex neuronal populations. How pleiotropic functions of deafness genes is likely to affect future treatments and shed light on the evolution of this sensory system will be discussed. **CME**



Light Detection in the Eye: The Big Picture

King-Wai Yau, PhD / Johns Hopkins University School of Medicine

This lecture will discuss multiple photoreceptor cell-types existing in the eye. Retinal rods and cones serve predominantly image-forming vision, using a cGMP signaling cascade for phototransduction. A few percent of retinal ganglion cells express the pigment melanopsin and are bona fide photoreceptors. They serve mostly, but not exclusively, non-image-forming vision. They use a combination of cGMP signaling and phospholipase-C signaling for phototransduction, with some using both signaling pathways in the same cell. Still other ocular photoreceptor cells exist both inside and outside the retina. **CME**

THEME E: MOTOR SYSTEMS



Bidirectional Interactions Between the Brain and Implantable Computers

Eberhard E. Fetz, PhD / University of Washington

Closed-loop interactions between the brain and implantable computers open new opportunities for brain research and clinical applications. This lecture will review the use of bidirectional brain-computer interfaces to bridge lost physiological connections, strengthen synaptic connections via Hebbian plasticity, and reinforce neural activity with intracranial stimulation. Closed-loop activity-dependent stimulation has numerous applications, depending on the recorded signals, the computed transforms, and the stimulated targets. **CME**



THEME G: MOTIVATION AND EMOTION



Reward Processing by the Dorsal Raphe

Minmin Luo, PhD / National Institute of Biological Sciences, Beijing

Rewards fundamentally influence animal survival and well-being. The dorsal raphe nucleus (DRN) in the midbrain is a major center for serotonin neurons. The questions of whether and how the DRN and the serotonin system process reward signals have remained controversial. This lecture will present recent evidence to argue that DRN serotonin neurons likely encode “beneficialness,” or how much potential benefit the current state might bring to an individual. This simple theory may explain the diverse roles of serotonin in modulating behaviors and intervening in psychiatric disorders. **CME**

THEME H: COGNITION



Neural Dynamics of the Primate Attention Network

Sabine Kastner, MD, PhD / Princeton Neuroscience Institute

The selection of information from cluttered sensory environments is one of the most fundamental cognitive operations performed by the primate brain. This process engages a large-scale network that consists of multiple nodes, distributed across cortical and subcortical regions. This lecture will focus on temporal dynamics within this network that shape both the sampling of and responses to our environment, with an emphasis on thalamo-cortical interactions. The lecture will also discuss the importance of comparative electrophysiology and neuroimaging in human and monkey brains. **CME**

SPECIAL LECTURES (CONT.)



New Computational Perspectives on Serotonin Function

Zach Mainen, PhD / Champalimaud Foundation, Portugal

Serotonin is an important target of psychoactive drugs whose endogenous neuromodulatory functions remain enigmatic. Data indicate that serotonin neurons are activated by surprising events and that consequent serotonin release facilitates neural plasticity and biases decision-making. This lecture will discuss these data from a computational perspective in which serotonin is seen as reporting uncertainty in the brain's internal models of the world and helping to modify them accordingly. **CME**



THEME I: TECHNIQUES

Organelle Structure and Dynamics: What High-Resolution Imaging Is Uncovering

Jennifer Lippincott-Schwartz, PhD / Janelia Research Campus

Powerful new ways to image the internal structures and complex dynamics of cells are revolutionizing cell biology and biomedical research. This lecture will focus on how emerging imaging technologies are increasing spatiotemporal resolution dramatically, permitting simultaneous multispectral imaging of multiple cellular components. Using these tools, it is now possible to begin describing the interrelationships of different cellular organelles as they carry out critical functions. **CME**



Neural Data Science: Accelerating the Experiment-Analysis-Theory Cycle in Large-Scale Neuroscience

Liam Paninski, PhD / Columbia University

Modern multineuronal recordings produce single-cell-resolution data on a large scale. "Neural data science" aims to extract meaning from the resulting huge new streams of data. This lecture will review recent progress and current challenges in this rapidly growing field, where new methods for network analysis, dimensionality reduction, and optimal control — developed in lockstep with advances in experimental neurotechnology — promise breakthroughs in multiple fundamental neuroscience problems. **CME**



SYMPOSIA AND MINISYMPOSIA

THEME A: DEVELOPMENT

SYMPOSIUM: Extracellular Vesicles: Insights Into Cell-to-Cell Communication in the Nervous System **CME**
Chair: Jason D. Shepherd, PhD

MINISYMPOSIUM: Molecular Mechanisms Underpinning Dopamine Neuron Development, Diversity, and Vulnerability **CME**
Chair: Raj Awatramani, PhD
Co-Chair: Sandra Blaess, PhD

MINISYMPOSIUM: Neural Proteomics in Synapse Development and Function **CME**
Chair: Brock Grill, PhD
Co-Chair: Kirill A. Martemyanov, PhD

SYMPOSIUM: Neuronal Guidance in Health and Disease **CME**
Chair: Alex L. Kolodkin, PhD

SYMPOSIUM: RNA Control of Axonal Functions **CME**
Chair: Jeffery L. Twiss, MD, PhD
Co-Chair: Michael Fainzilber, PhD

MINISYMPOSIUM: Sonic Hedgehog and Cell-Specific Programming: Circuits, Disease, and Repair **CME**
Chair: Corey C. Harwell, PhD
Co-Chair: Rebecca Ihrie, PhD

THEME B: NEURAL EXCITABILITY, SYNAPSES, AND GLIA

MINISYMPOSIUM: Advances in Enteric Neurobiology: The “Brain” in the Gut in Health and Disease **CME**
Chair: Meenakshi Rao, MD, PhD
Co-Chair: Subhash Kulkarni, PhD

MINISYMPOSIUM: Cell Adhesion Molecules at the Intersection of Cell Type Identity and Neural Circuit Connectivity **CME**
Chair: Csaba Foldy, PhD
Co-Chair: Joris de Wit, PhD

MINISYMPOSIUM: Molecular and Nano-Organization of Synapses **CME**
Chair: Thomas Biederer, PhD

MINISYMPOSIUM: Multitransmitter Neurons: The Function and Regulation of Neurotransmitter Cotransmission **CME**
Chair: Adam J. Granger, PhD

MINISYMPOSIUM: Neuromodulation of Brain States in Health and Disease: Bridging Experiments and Computational Models **CME**
Chair: Srikanth Ramaswamy, PhD
Co-Chair: Antoine Adamantidis, PhD

SYMPOSIUM: Unveiling the Extracellular Space of the Brain: From Super-Resolved Microstructure to *In Vivo* Function **CME**
Chair: Valentin U. Nägerl, PhD
Co-Chair: Sabina Hrabetova, MD, PhD

THEME C: NEURODEGENERATIVE DISORDERS AND INJURY

MINISYMPOSIUM: The Endolysosomal System and Proteostasis: From Development to Degeneration **CME**
Chair: Huaye Zhang, PhD
Co-Chair: Bettina R. Winckler, PhD

SYMPOSIUM: Global Efforts to Build More Predictive Animal Models of Neurodegenerative Disease **CME**
Chair: Bruce T. Lamb, PhD
Co-Chair: Rudolph E. Tanzi, PhD

MINISYMPOSIUM: Mechanisms of Tau Oligomer-Induced Synaptic Impairment and Potential Treatment Strategies **CME**
Chair: Ottavio Arancio, MD, PhD
Co-Chair: Frank M. Longo, MD, PhD

SYMPOSIUM: Organelle Dynamics and Proteostasis in Neuronal Homeostasis and Degeneration **CME**
Chair: Xinnan Wang, PhD

SYMPOSIUM: Repairing the Injured Nervous System: Inhibiting the Inhibitors **CME**
Chair: Elizabeth J. Bradbury, PhD
Co-Chair: Catherina G. Becker, PhD

THEME D: SENSORY SYSTEMS

MINISYMPOSIUM: Algorithms for Olfactory Search Across Species **CME**
Chair: Matt Smear, PhD
Co-Chair: Katherine Nagel, PhD

2018 BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLES

Molecular Therapies for Neurological Diseases **CME**
Organizer: Frank Bennett, PhD

Neuroprosthetic Devices: A Patient’s Perspective on Brain Computer Interfaces **CME**
Organizer: Florian Solzbacher, PhD

Rapid Antidepressant Action: Synaptic Mechanisms and Clinical Aspects **CME**
Organizer: Ege T. Kavalali, PhD

What We Know, What We Don’t Know: How Can We Better Understand Alzheimer’s Disease to Develop Effective Treatments? **CME**
Organizer: David M. Holtzman, MD



SYMPOSIA AND MINISYMPOSIA (CONT.)

SYMPOSIUM: The Feeling Within: Molecules to Behavior Underlying Interoception **CME**

Chair: Lisa Stowers, PhD
Co-Chair: Ardem Patapoutian, PhD

MINISYMPOSIUM: How to Get Out of Harm's Way: New Insight Across Multiple Species Into the Neural Mechanisms of Visually Guided Collision Avoidance **CME**

Chair: Fabrizio Gabbiani, PhD
Co-Chair: Florian Engert, PhD

MINISYMPOSIUM: Multidimensional Neuronal Cell Type Classification in the Cerebral Cortex **CME**

Chair: Jochen F. Staiger, MD
Co-Chair: Staci A. Sorensen, PhD

MINISYMPOSIUM: Novel Molecular Targets for the Treatment of Pain **CME**

Chair: John M. Streicher, PhD
Co-Chair: Tally Largent-Milnes, PhD

THEME E: MOTOR SYSTEMS

MINISYMPOSIUM: The Basal Ganglia: Beyond Action Selection **CME**

Chair: Eric A. Yttri, PhD

MINISYMPOSIUM: Cortical Control of Locomotion and Posture **CME**

Chair: Irina N. Beloozerova, PhD

MINISYMPOSIUM: The Dynamic Interaction of Vision and Eye Movements **CME**

Chair: J. Patrick Mayo, PhD

MINISYMPOSIUM: Latent Factors and Dynamics in Motor Cortex and Their Application to Brain-Machine Interfaces **CME**

Chair: Chethan Pandarinath, PhD

MINISYMPOSIUM: More Than Just a "Motor": Recent Surprises From the Frontal Cortex **CME**

Chair: Christian L. Ebbesen, PhD

SYMPOSIUM: Targeted Therapies for Parkinson's Disease: From Genetics to the Clinic **CME**

Chair: Lamya S. Shihabuddin, PhD
Co-Chair: Patrik Brundin, MD, PhD

THEME F: INTEGRATIVE PHYSIOLOGY AND BEHAVIOR

SYMPOSIUM: Blood-Brain Barrier in Health and Disease: Role in Neurodegeneration, CNS Autoimmunity, and Gene Transfer **CME**

Chair: Berislav V. Zlokovic, MD, PhD

MINISYMPOSIUM: Defining Dysbiosis in Disorders of Movement and Motivation **CME**

Chair: Christopher T. Fields
Co-Chair: Helen Vuong, PhD

SYMPOSIUM: The Emerging Role of the Amygdala in Modulating the Somatosensory and Emotional Components of Pain and Itch **CME**

Chair: Benedict J. Kolber, PhD

SYMPOSIUM: Multiple Axes of Dopamine Systems for Behavioral Controls: From Fly Via Rodent to Monkey **CME**

Chair: Mitsuko Watabe-Uchida, PhD
Co-Chair: Okihide Hikosaka, MD, PhD

SYMPOSIUM: Multiscale Computer Modeling of Neural Circuits in Health and Disease **CME**

Chair: William W. Lytton, MD
Co-Chair: Christophe Bernard, PhD

MINISYMPOSIUM: Neuronal Mechanisms for Prepulse Inhibition: Comparative Approaches From Sensory to Cognition **CME**

Chair: Thomas Preuss, PhD
Co-Chair: Susanne Schmid, PhD

MINISYMPOSIUM: Neuropeptide Signaling: From Physiology to Behavior **CME**

Chair: Jennifer Garrison, PhD

MINISYMPOSIUM: Sex Differences in Risk and Resilience: Stress Effects on the Neural Substrates of Emotion and Motivation **CME**

Chair: Cara L. Wellman, PhD

THEME G: MOTIVATION AND EMOTION

MINISYMPOSIUM: Computational Affective Neuroscience: Algorithms for Survival **CME**

Chair: Robb B. Rutledge, PhD
Co-Chair: Dominik R. Bach, MD, PhD

MINISYMPOSIUM: Insular Cortex Neurocircuits: Relationships Among Function, Connectivity, and Drug and Alcohol Abuse **CME**

Chair: Brady K. Atwood, PhD

MINISYMPOSIUM: Neurocognitive Development of Motivated Behavior **CME**

Chair: Catherine A. Hartley, PhD
Co-Chair: Dylan G. Gee, PhD

MINISYMPOSIUM: Sex Differences and Hormone Action in the Limbic System **CME**

Chair: John Meitzen, PhD

MINISYMPOSIUM: Social Motivation Across the Lifespan **CME**

Chair: Brian C. Trainor, PhD
Co-Chair: Alexa H. Veenema, PhD

THEME H: COGNITION

MINISYMPOSIUM: From Recent to Remote Memory and Back **CME**

Chair: Yaniv Ziv, PhD
Co-Chair: Inbal Goshen, PhD

MINISYMPOSIUM: High-Level Cognition in Low-Level Brain Regions **CME**

Chair: Rosemary A. Cowell, PhD

SYMPOSIUM: Language Networks Derived From Direct Intracranial Recordings in Humans **CME**

Chair: Nitin Tandon, MD
Co-Chair: Stanislas Dehaene, PhD

SYMPOSIUM: Mental Structures and Sequences: Evolutionary Solutions From Birds to Primates **CME**

Chair: Christopher I. Petkov, PhD
Co-Chair: Angela Friederici, PhD

MINISYMPOSIUM: The Neurobiology of Forgetting **CME**

Chair: Maria Wimber, PhD
Co-Chair: Paul W. Frankland, PhD

SYMPOSIUM: Specific Basal Forebrain-Cortical Cholinergic Circuits Coordinate Cognitive Operations **CME**

Chair: Laszlo Zaborszky, MD, PhD
Co-Chair: Gina R. Poe, PhD

THEME I: TECHNIQUES

SYMPOSIUM: The Dynamic Brain: Signatures of Fast Functional Reconfiguration, Their Interpretability, and Clinical Value **CME**

Chair: Javier Gonzalez-Castillo, PhD
Co-Chair: Peter Bandettini, PhD

MINISYMPOSIUM: Exposing Neural Dynamics Using Real-Time Control: From Neurons to Human Behavior and Psychopathology **CME**

Chair: Hanna Keren, PhD
Co-Chair: Christoph Zrenner, MD

MINISYMPOSIUM: Human Stem Cell Models to Validate Rare and Common Variants Contributing to Neurodevelopmental Disorders **CME**

Chair: Kristen Brennand, PhD

MINISYMPOSIUM: Innovative Approaches for Monitoring Neuromodulation With Light **CME**

Chair: Yulong Li, PhD
Co-Chair: Matthew R. Banghart, PhD

SYMPOSIUM: Local Field Potentials and Deep Brain Stimulation **CME**

Chair: Cameron C. McIntyre, PhD

MINISYMPOSIUM: New Observations in Neuroscience Using Superresolution Microscopy **CME**

Chair: Michihiro Igarashi, MD, PhD

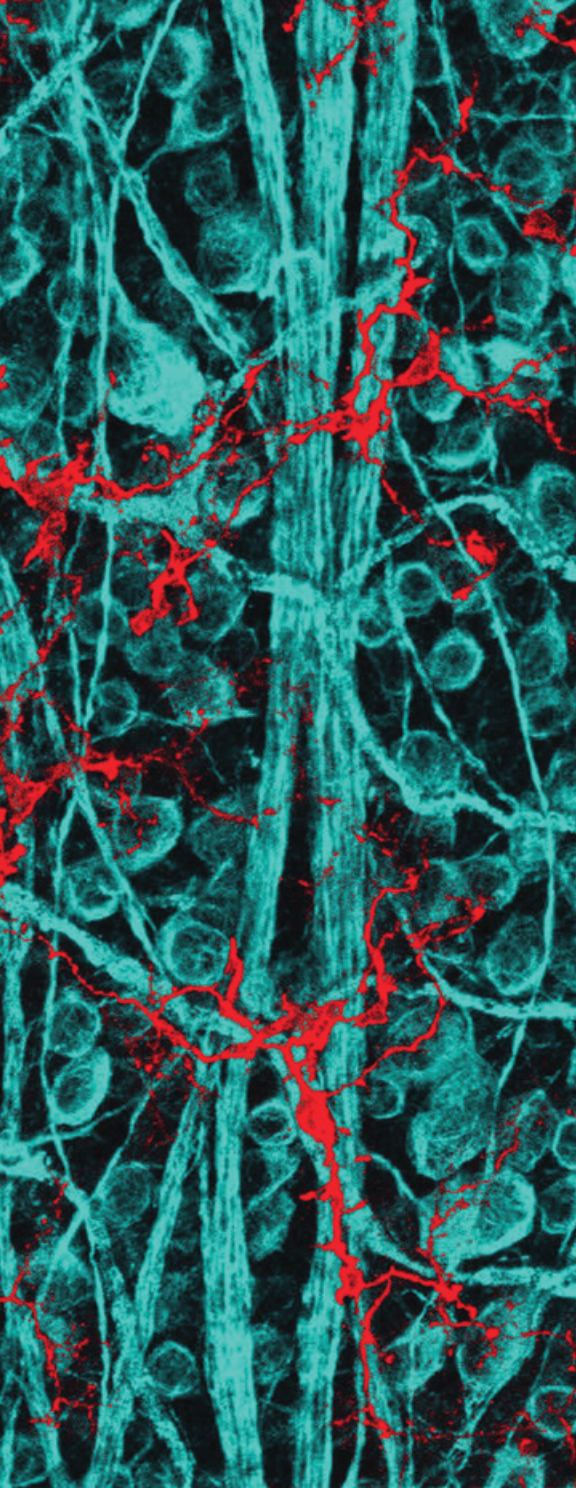
MINISYMPOSIUM: Whole-Brain Analysis of Cells and Circuits by Tissue Clearing and Light-Sheet Microscopy **CME**

Chair: Hiroki R. Ueda, MD, PhD
Co-Chair: Kwanghun Chung, PhD

THEME J: HISTORY AND EDUCATION

MINISYMPOSIUM: Telling Stories of Science

Chair: Wendy A. Suzuki, PhD



CLINICIAN-SCIENTISTS AND CONTINUING MEDICAL EDUCATION (CME)

At Neuroscience 2018, a wealth of sessions will focus on translational and clinical research in neuroscience. The Meet-the-Clinician-Expert sessions (pg. 20–21) will give attendees a behind-the-scenes look at factors influencing a clinician-scientist’s work. Four Basic-Translational-Clinical Roundtables will discuss research topics related to rapid antidepressant action; molecular therapies for neurological diseases; neuroprosthetic devices from the patient’s perspective; and improving the understanding of Alzheimer’s disease to develop effective treatments. (pg. 12). Additionally, the Clinical Neuroscience Lecture (pg. 7) will analyze a topic in neuroscience with clinical significance, and attendees can access the clinical neuroscience curated itinerary (available this summer), which will highlight sessions focusing on translational research.

Clinician-scientist attendees can opt to earn Continuing Medical Education (CME) credits while taking advantage of SfN’s robust programming. Register for SfN’s CME program during registration or on site at the meeting.

Physicians: Improve Competencies While Earning CME Credit

The SfN annual meeting is a forum for the education of physicians in the field of neuroscience. By attending select lectures, symposia, minisymposia, and clinical roundtables, physicians receive both a broad overview of the field and detailed information about the most recent research and advances in specific areas. Abstracts for each plenary session contain brief descriptions of the material to be presented. By attending these events,

physicians can better understand the basic science that underlies clinical practice.

Statement of Need

It is important that physicians gain competence in the basic science that underlies clinical medicine, and the SfN annual meeting is the premier venue for acquiring this foundational knowledge. Physicians learn about the latest discoveries regarding the brain and nervous system.

Global Learning Objective

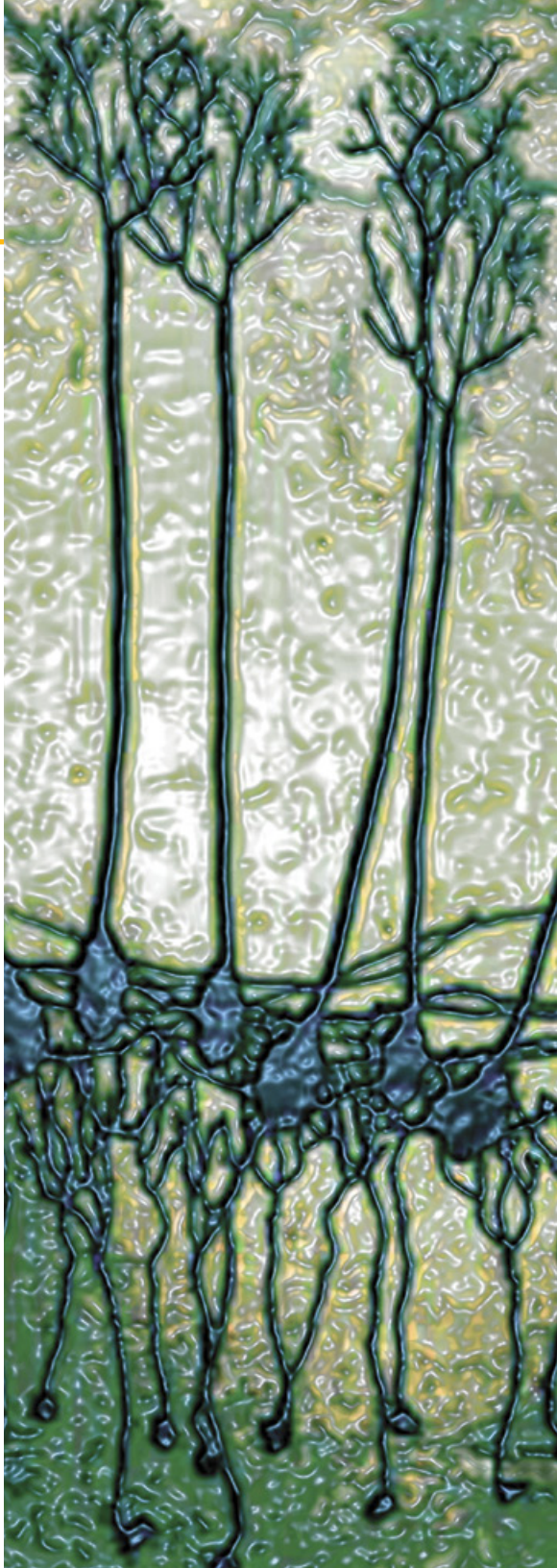
Physicians will integrate research on the mechanisms, treatment, and diagnosis of conditions related to neurological and psychiatric diseases and disorders into their diagnostic and therapeutic modalities of practice to determine the best treatment for the patient.

Accreditation

SfN is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

CME Registration

CME registration must be completed before or during the annual meeting. Those who do not register before the conclusion of the meeting will not be able to request CME credits. Two weeks before the meeting, CME registrants will receive an email about the CME Supplemental Program, which contains important details regarding the CME program, including disclosure information and instructions for obtaining CME credits.



Share in the **joy of science** with your global neuroscience community.

The Society for Neuroscience (SfN) provides exceptional value to researchers and clinicians at all career stages. Year-round member benefits include:

- ▶ **Scientific Journals**
- ▶ **Virtual Conferences**
- ▶ **Advocacy Activities**
- ▶ **Professional Development**
- ▶ **Award Opportunities**

Plus, members can save up to \$445 on annual meeting registration.

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“One of the very special things about SfN is being a part of this large society, getting these benefits of publishing in journals like *JNeurosci*, sponsoring students, and also just networking and reconnecting with people in neuroscience.”

— **Jayeeta Basu, PhD, SfN member**



PROGRAM AT A GLANCE

Friday, Nov. 2	
8 a.m.–5 p.m.	Neurobiology of Disease Workshop
8 a.m.–6 p.m.	Short Course #1
8 a.m.–6 p.m.	Short Course #2
1–5:30 p.m.	Short Course #3
Saturday, Nov. 3	
8–9:15 a.m.	Meet-the-Expert Series Session 1
8 a.m.–5 p.m.	NeuroJobs Career Center
9–11 a.m.	Building a Supportive Global Network
9–11 a.m.	Improving Your Science: Better Inference, Reproducible Analyses, and the New Publication Landscape
9:30–10:45 a.m.	Meet-the-Expert Series Session 2
10–11 a.m.	Meeting Mobile App Tutorial
11 a.m.–1 p.m.	Dialogues Between Neuroscience and Society
Noon–2 p.m.	Careers in Making Medicines: Translating Basic Research into Therapeutics
Noon–2 p.m.	How SfN Helped My Career
1–3 p.m	Graduate School Fair

1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia CME
2–3:10 p.m.	Special Lecture CME
2:30–4 p.m.	Brain Awareness Campaign Event
3–5 p.m.	Bringing a Student-Run Outreach Program to Your Institution
3–5 p.m.	How Women Can Survive and Thrive in Neuroscience
5:15–6:30 p.m.	Presidential Special Lecture CME
6:30–8:30 p.m.	Diversity Poster Session
6:30–8:30 p.m.	International Fellows Poster Session
6:30–8:30 p.m.	Trainee Professional Development Awards Poster Session
7:30–9:30 p.m.	Career Development Topics: A Networking Event
Sunday, Nov. 4	
8 a.m.–noon	Posters/Nanosymposia
8 a.m.–5 p.m.	NeuroJobs Career Center
8:30–9:40 a.m.	Special Lecture CME
8:30–11 a.m.	Basic–Translational–Clinical Roundtable #1 CME
8:30–11 a.m.	Symposia/Minisymposia CME

9–11 a.m.	Face-to-Face Networking: Building and Maintaining Professional Relationships
9–11 a.m.	Fixing the Leaky Pipeline for Women in Science: Addressing Issues Facing New Moms
9:30 a.m.–5 p.m.	Exhibits
10–11:10 a.m.	Special Lecture CME
11:30 a.m.–12:40 p.m.	Special Lecture CME
Noon–2 p.m.	Career Planning and Explorations for Biomedical PhD Scientists and Physician-Scientists (MD-PhD)
Noon–2 p.m.	Cultivating Leadership in Multidisciplinary Research: Bridging Gaps Across Campuses, Countries, and Continents
Noon–2 p.m.	Graduate School Fair
1–2:10 p.m.	Special Lecture CME
1–3 p.m.	Social Issues Roundtable
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia CME
2:30–3:40 p.m.	Peter and Patricia Gruber Lecture
2:30–5 p.m.	Neuroscience Department and Programs Workshop

3–5 p.m.	How a Journal Handles Your Paper
5:15–6:30 p.m.	Presidential Special Lecture CME
6:45–8:45 p.m.	SfN–Sponsored Socials
Monday, Nov. 5	
8 a.m.–noon	Posters/Nanosymposia
8 a.m.–5 p.m.	NeuroJobs Career Center
8:30–9:40 a.m.	Special Lecture CME
8:30–11 a.m.	Basic–Translational–Clinical Roundtable #2 CME
8:30–11 a.m.	Symposia/Minisymposia CME
9–11 a.m.	FAIR Neuroscience: Sharing and Collaborating for Reproducible Data
9–11 a.m.	Teaching Neuroscience: Emotion and Learning
9:30 a.m.–5 p.m.	Exhibits
10–11:10 a.m.	David Kopf Lecture on Neuroethics
11:30 a.m.–12:40 p.m.	Special Lecture CME
Noon–2 p.m.	Animals in Research Panel
Noon–2 p.m.	Graduate School Fair
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Basic–Translational–Clinical Roundtable #3 CME

1:30–4 p.m.	Symposia/Minisymposia CME
3:15–4:25 p.m.	Albert and Ellen Grass Lecture CME
5:15–6:30 p.m.	Presidential Special Lecture CME
6:45–8:45 p.m.	SfN Chapters Workshop and Reception
6:45–8:45 p.m.	SfN–Sponsored Socials
Tuesday, Nov. 6	
8 a.m.–noon	Posters/Nanosymposia
8 a.m.–5 p.m.	NeuroJobs Career Center
8:30–9:40 a.m.	Special Lecture CME
8:30–11 a.m.	Basic–Translational–Clinical Roundtable #4 CME
8:30–11 a.m.	Symposia/Minisymposia CME
9:30 a.m.–5 p.m.	Exhibits
10–11:10 a.m.	Special Lecture CME
11:30 a.m.–12:40 p.m.	Special Lecture CME
Noon–2 p.m.	A Celebration of Women in Neuroscience Luncheon
Noon–2 p.m.	Graduate School Fair
1–2:10 p.m.	Special Lecture CME

1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia CME
2:30–3:40 p.m.	History of Neuroscience Lecture
2–3:30 p.m.	Public Advocacy Forum
5:15–6:30 p.m.	Presidential Special Lecture CME
6:45–7:30 p.m.	SfN Members’ Business Meeting
6:45–8:45 p.m.	SfN–Sponsored Socials
8:30–11:30 p.m.	Graduate Student Reception
Wednesday, Nov. 7	
8 a.m.–noon	Posters/Nanosymposia
8 a.m.–3 p.m.	NeuroJobs Career Center
8:30–9:40 a.m.	Special Lecture CME
8:30–11 a.m.	Symposia/Minisymposia CME
9:30 a.m.–5 p.m.	Exhibits
10–11:10 a.m.	Special Lecture CME
11:30 a.m.–12:40 p.m.	Special Lecture CME
1–2:10 p.m.	Special Lecture CME
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia CME

SfN PRE-CONFERENCE SESSIONS

🔗 Preregistration Required \$ Course Fee 📖 Professional Development 🗂 Networking ✳ Public Outreach

SfN Preconference Session Fees

SfN preconference sessions are sponsored by the Society and occur prior to the official start of the annual meeting. Paid registration is required for Short Courses and the Neurobiology of Disease Workshop. To attend, add the appropriate course to your annual meeting registration.

Short Courses 1 and 2

(Includes electronic syllabus and lunch)

Student member	\$150
Student nonmember	\$225
Postdoctoral member	\$225
Faculty member	\$295
Faculty nonmember	\$445

Short Course 3

(Includes electronic syllabus)

Student member	\$100
Student nonmember	\$150
Postdoctoral member	\$150
Faculty member	\$200
Faculty nonmember	\$300

Neurobiology of Disease Workshop

(Includes breakfast, lunch, and electronic syllabus)

Student attendee	\$85
Postdoctoral attendee.....	\$150
Faculty attendee	\$300

*Registration is not required for the Meet-the-Expert Series.

FRIDAY, NOV. 2

Neurobiology of Disease Workshop

The Role of Innate Immunity in CNS Disorders Throughout the Lifespan 🔗 \$ 📖

8 a.m.–5 p.m.

Organizers: Gwenn Garden, MD, PhD; John Neumaier, MD, PhD; Stuart Lipton, MD, PhD
Contact: training@sfn.org

Support contributed by: *The National Institute of Neurological Disorders and Stroke, NIH; the National Institute on Alcohol Abuse and Alcoholism, NIH; and the National Center for Complementary and Integrative Health, NIH*

Short Course 1

Sex Differences in the Brain: Balancing Sex in Preclinical Research 🔗 \$ 📖

8 a.m.–6 p.m.

Organizers: Jill Becker, PhD; Jessica Tollkuhn, PhD
Contact: training@sfn.org

Short Course 2

Functional, Structural, and Molecular Imaging, and Big Data Analysis 🔗 \$ 📖

8 a.m.–6 p.m.

Organizers: Ed Boyden, PhD; Kwanghun Chung, PhD
Contact: training@sfn.org

Short Course 3

Power Dynamics in Academia 🔗 \$ 📖

1–5:30 p.m.

Organizers: Story Landis, PhD; Marguerite Matthews, PhD; Cheryl Sisk, PhD; Keith Trujillo, PhD; Elisabeth Van Bockstaele, PhD;
Contact: training@sfn.org

SATURDAY, NOV. 3

Meet-the-Expert Series: Session 1 📖 🗂

8–9:15 a.m.

Contact: profdev@sfn.org

Meet-the-Clinician-Expert: How to Make Your Work/Life Relevant

Y. Joyce Liao, MD, PhD

Theme J: History and Education

Modeling Spinal Cord Development and Disease With Stem Cell Derived Neurons

Hynek Wichterle, PhD

Theme A: Development

My Personal Journey From Synapse to Circuit and Behavior

Camilla Bellone, PhD

Theme B: Neural Excitability, Synapses, and Glia

From Synapses to Behavior:

Uncovering Fundamental Concepts

Guiding the Development and Plasticity of Neural Circuits

Carlos Aizenman, PhD

Theme A: Development

Neurophysiology Guiding Recovery After CNS Injury

Monica Perez, PhD

Theme E: Motor Systems

From Behavior to Mechanism: The Features and Flaws of Studying Innate and Social Behavior in the Mouse

Lisa Stowers, PhD

Theme E: Motor Systems

High Channel Count Electrophysiology, Neuropixels, and Beyond: Where Can Technology Take Us?

Timothy Harris, PhD

Theme I: Techniques

Meet-the-Expert Series: Session 2 📖 🗂

9:30–10:45 a.m.

Contact: profdev@sfn.org

Meet-the-Clinician-Expert: Optogenetically Inspired Deep Brain Stimulation (Opto DBS) for Novel Indications

Christian Lüscher, MD, PhD

Theme G: Motivation and Emotion

Understanding the Physiology of New and Old Neurons in the Dentate Gyrus

Linda Overstreet-Wadiche, PhD

Theme B: Neural Excitability, Synapses, and Glia

Molecular Mechanisms Governing the Blood Brain Barrier Function

Chenghua Gu, PhD

Theme C: Neurodegenerative Disorders and Injury

Early Life Experience Shapes Brain Development: To Understand Primate Brains From Rodent Works

Tomomi Shimogori, PhD

Theme G: Motivation and Emotion

Decision-Making in the Brain, the Lab, and Beyond

Anne Churchland, PhD

Theme H: Cognition

The Need for Speed: Development and Use of Genetically Encoded Voltage Indicators

Michael Lin, MD, PhD

Theme I: Techniques

Start Making Sense: Neuronal and Molecular Mechanisms of Sensory Signaling

Piali Sengupta, PhD

Theme D: Sensory Systems

NeuroJobs Career Center

Saturday, Nov. 3–Tuesday, Nov. 6, 8 a.m.–5 p.m.

Wednesday, Nov. 7, 8 a.m.–3 p.m.
Contact: neurojobs@sfn.org

WORKSHOPS, MEETINGS, AND EVENTS

🔗 Preregistration Required \$ Course Fee 📖 Professional Development

🗂 Networking ✳ Public Outreach

Professional Development

Workshop Tracks

Professional Development Workshops are categorized by tracks to help attendees quickly identify the workshops that are of the greatest interest to them:

- Success in Academia
- Collaboration & Networking
- Career Paths
- Neuroscience Education

SATURDAY, NOV. 3

● Building a Supportive Global Network 📖

9–11 a.m.

Organizer: Emmeline Edwards, PhD
Contact: profdev@sfn.org

● Improving Your Science: Better Inference, Reproducible Analyses, and the New Publication Landscape 📖

9–11 a.m.

Organizer: Robert Calin-Jageman, PhD
Contact: profdev@sfn.org

Meeting Mobile App Tutorial

10–11 a.m.

Contact: program@sfn.org

● Careers in Making Medicines: Translating Basic Research into Therapeutics 📖

Noon–2 p.m.

Organizer: Fiona Randall, PhD

Contact: profdev@sfn.org

● How SfN Helped My Career: Making the Most of Your Conference Experience 📖 🗂

Noon–2 p.m.

Organizer: Robert Burgess, PhD

Contact: profdev@sfn.org

Graduate School Fair 🗂

Saturday, Nov. 3, 1–3 p.m.

Sunday, Nov. 4–Tuesday, Nov. 6, noon–2 p.m.

Contact: training@sfn.org

Brain Awareness Campaign Event 🗂 ✳

2:30–4 p.m.

Contact: baw@sfn.org

● Bringing a Student-Run Outreach Program to Your Institution 📖

3–5 p.m.

Organizers: Alice Dallstream; Barbara Terzic
Contact: profdev@sfn.org

● How Women Can Survive and Thrive in Neuroscience 📖

3–5 p.m.

Organizer: Melissa Harrington, PhD

Contact: profdev@sfn.org



WORKSHOPS, MEETINGS, AND EVENTS (CONT.)

📍 Preregistration Required \$ Course Fee 📖 Professional Development 🗨 Networking ✳ Public Outreach

Diversity Poster Session 📖 🗨

6:30–8:30 p.m.
Contact: nsp@sfn.org
Support contributed by: eNeuro and the Journal of Neuroscience

International Fellows Poster Session 📖 🗨

6:30–8:30 p.m.
Contact: globalaffairs@sfn.org
Support contributed by: eNeuro and the Journal of Neuroscience

Trainee Professional Development Awards Poster Session 📖 🗨

6:30–8:30 p.m.
Contact: awards@sfn.org
Support contributed by: eNeuro and the Journal of Neuroscience

Career Development Topics:

A Networking Event 📖 🗨
7:30–9:30 p.m.
Contact: profdev@sfn.org

SUNDAY, NOV. 4

● **Face-to-Face Networking: Building and Maintaining Professional Relationships** 📖 🗨
9–11 a.m.
Organizer: Rae Nishi, PhD
Contact: profdev@sfn.org

● **Fixing the Leaky Pipeline for Women in Science: Addressing Issues Facing New Moms** 📖
9–11 a.m.
Organizer: Jamie Krueger
Contact: profdev@sfn.org

● **Career Planning and Explorations for Biomedical PhD Scientists and Physician-Scientists (MD-PhD)** 📖
Noon–2 p.m.
Organizer: Nancy Schwartz, PhD
Contact: profdev@sfn.org

● **Cultivating Leadership in Multidisciplinary Research: Bridging Gaps Across Campuses, Countries, and Continents** 📖
Noon–2 p.m.
Organizer: Sadye Paez, PhD
Contact: profdev@sfn.org

Social Issues Roundtable ✳
Solitary Confinement: Psychological and Neurobiological Insights Into Isolation
1–3 p.m.
Organizer: Michael J. Zigmond, PhD
Contact: baw@sfn.org

● **Neuroscience Departments and Programs Workshop** 📖
Breaking Through: Pathways to Independence for Early Career Neuroscientists
2:30–5 p.m.
Organizers: Rosalind Segal, MD, PhD; Elisabeth Van Bockstaele, PhD
Contact: training@sfn.org

● **How a Journal Handles Your Paper** 📖
3–5 p.m.
Organizer: J. Paul Bolam, PhD
Contact: profdev@sfn.org

MONDAY, NOV. 5

● **FAIR Neuroscience: Sharing and Collaborating for Reproducible Data** 📖
9–11 a.m.
Organizer: Linda Lanyon, PhD
Contact: profdev@sfn.org

● **Teaching Neuroscience: Emotion and Learning** 📖
9–11 a.m.
Organizer: Richard Olivo, PhD
Contact: profdev@sfn.org

● **Animals in Research Panel**
Gaining Public Support for Animal Research: A Proposal for Openness 📖
Noon–2 p.m.
Organizer: Mar Sanchez, PhD
Contact: advocacy@sfn.org
Support contributed by: The National Primate Research Centers

Chapters Workshop and Reception 🗨
6:45–8:45 p.m.
Contact: chapters@sfn.org

TUESDAY, NOV. 6

Celebration of Women in Neuroscience Luncheon 📍 🗨
Noon–2 p.m.
Contact: cwin@sfn.org

Public Advocacy Forum ✳
Advocacy in Four Dimensions
2–3:30 p.m.
Organizer: William J. Martin, PhD
Contact: advocacy@sfn.org

SfN Members' Business Meeting 🗨
6:45–7:30 p.m.
Contact: info@sfn.org

Graduate Student Reception 🗨
8:30–11:30 p.m.
Contact: meetings@sfn.org
Support contributed by: eNeuro and the Journal of Neuroscience



SfN-SPONSORED SOCIALS

Sunday, Nov. 4, 6:45–8:45 p.m.	Neuroethology/Invertebrate Neurobiology Social	Ingestive Behavior Social	Eye Movements Social
Autonomic and Respiratory Function Social		The Marmoset Social	Global Neuroscience Social
Breaking Barriers for Young Women in Science Social	Spinal Cord Injury Social	Migraine Social	Mechanosensation Social
Cajal Club Social	Monday, Nov. 5, 6:45–8:45 p.m.	Music Social	Neuroendocrinology Social
Faculty for Undergraduate Neuroscience (FUN) Poster Session and Social	Behavioral Neuroendocrinology Social	Psychopharmacology Social	Neuroinformatics Social
Hearing and Balance Social	Cerebellum Social	Tuesday, Nov. 6, 6:45–8:45 p.m.	Neuron-Glia Interactions Social
Neural Oscillations Social	Down Syndrome: From Neurobiology to Treatment Social	Alzheimer’s and Related Dementias Social	Open-Source Technology Social
Neuroethics Social	Epilepsy Social	Art and Neuroscience Social	Pain and Itch Social
	The Hippocampus Social	Computational Neuroscience Social	



SATELLITE EVENTS

Wednesday, Oct. 31		1–7 p.m.	Advances in Motor Control and Motor Learning
8 a.m.–8 p.m.	51st Annual Meeting International Society for Developmental Psychobiology (ISDP)	7 a.m.–5 p.m.	Alzheimer’s Fast Track
7 a.m.–7 p.m.	Alzheimer’s Fast Track	7 a.m.–7 p.m.	American Society of Neurorehabilitation Annual Meeting
Thursday, Nov. 1		8:30 a.m.–5:30 p.m.	Annual NIDA-NIAAA Frontiers in Addiction Research Mini-Convention
8 a.m.–5:30 p.m.	51st Annual Meeting International Society for Developmental Psychobiology (ISDP)	8 a.m.–6 p.m.	APAN-Advances and Perspectives in Auditory Neuroscience
6:30–9:30 p.m.	17th Annual Molecular and Cellular Cognition Society Poster Session	8 a.m.–5 p.m.	Barrels XXXI
10 a.m.–6 p.m.	2018 International Neuroethics Society Annual Meeting	8 a.m.–8 p.m.	Birdsong 8
5–7 p.m.	2018 International Neuroethics Society Public Program	7 a.m.–9 p.m.	J.B. Johnston Club for Evolutionary Neuroscience
7 a.m.–7 p.m.	Alzheimer’s Fast Track	8 a.m.–5:30 p.m.	Neuroscience of Movement Disorders
7 a.m.–7 p.m.	American Society of Neurorehabilitation Annual Meeting	8 a.m.–6 p.m.	Satellite Meeting of Comparative Cognition Society
8 a.m.–8 p.m.	Barrels XXXI	9 a.m.–5 p.m.	The IEEE Brain Initiative Workshop on Advanced NeuroTechnologies
7 a.m.–7:30 p.m.	J.B. Johnston Club for Evolutionary Neuroscience	9 a.m.–5 p.m.	Using NEURON to Model Cells and Networks
9 a.m.–5 p.m.	Motor Control, Neural Plasticity, & Brain-Computer Interfaces: A Symposium in Honor of Eberhard Fetz	9 a.m.–6:30 p.m.	Vision/Action: A Symposium in Honor of Lance Optican
1–7 p.m.	The IEEE Brain Initiative Workshop on Advanced NeuroTechnologies	Saturday, Nov. 3	
Friday, Nov. 2		6:30–10 p.m.	Chinese Neuroscientists Social
8 a.m.–5 p.m.	51st Annual Meeting International Society for Developmental Psychobiology (ISDP)	8–10:30 a.m.	Exploring Mouse and Human Cortical Cells Using the Allen Cell Types Database
5–7 p.m.	51st International Society for Developmental Psychobiology (ISDP) Open Poster Session	8–10:30 a.m.	Exploring the Allen Brain Observatory: An Open Database of Cortical Cell Physiology
8 a.m.–5 p.m.	14th Intl. Workshop on Advances in Electrocorticography	6:30–8:30 p.m.	Friends of Case Western Reserve University and Cleveland Clinic Social
9 a.m.–5 p.m.	17th Annual Molecular and Cellular Cognition Society Symposium	6:30–8:30 p.m.	FTD Social
8 a.m.–7 p.m.	2018 International Neuroethics Society Annual Meeting	6:30–8:30 p.m.	g.tec Brain Computer Interface Workshop
		9–10:30 a.m.	High Performance Computing (HPC) Resources for Parallel Simulation and Data Analysis: NSG and HPAC

SATELLITE EVENTS (CONT.)

6:30–10 p.m.	Localization Microscopy in Neuroscience: Understanding Neuronal Structure to the Nano Level
Sunday, Nov. 4	
6:30–9 p.m.	Arab Neuroscientists Social
7–10 p.m.	Boston University, Graduate Neuroscience Social
7–9 p.m.	Celebrating the Life and Legacy of Ben Barres
7–10 p.m.	Dutch Nite 2018
6:30–8:30 p.m.	ENIGMA Addiction Working Group Meeting
6:30–9:30 p.m.	Ernst Strüngmann Forum Social
6:30–8:30 p.m.	g.tec RecoveriX and MindBEAGLE Workshop
6:30–8:30 p.m.	International Behavioral and Neuroscience Society (IBNS) Social
6:30–8:30 p.m.	MilliporeSigma Presents: 6th Annual Satellite Symposium on Neuroinflammation, Degeneration, and Disease
6:30–8:30 p.m.	Stanford Neurosciences Reception
6:30–8 p.m.	Supercharge Your Patch-Clamp Data Acquisition and Analysis with the NEW pCLAMP 11 Software
6:30–8:30 p.m.	The University of Chicago Neuroscience Annual Social
Monday, Nov. 5	
6:30–8:30 p.m.	4th Thomas RECORDING GmbH Multichannel Recording Workshop
6:30–8:30 p.m.	8th Annual Mixer of the International Society for Serotonin Research
6:30–9:30 p.m.	15th Annual Christopher Reeve "Hot Topics" in Stem Cell Biology
6:30–9 p.m.	2018 Taiwan Night

6:30–8 p.m.	Alzheimer's Association Reception
6:30–9:30 p.m.	Association of Korean Neuroscientists: Annual Meeting and Social
6:30–7:30 p.m.	DFG Leibniz Lecture
6:30–8:30 p.m.	Discover How Human iPSC-Derived Neural Cells Are Facilitating Disease Modelling and Drug Discovery
6:30–9:30 p.m.	FOXG1 Research: Achievements and Opportunities
6:30–8 p.m.	Grass Foundation and Marine Biological Laboratory
7:30–8:30 p.m.	Neuroscience in Germany Social XXV
6:30–9:30 p.m.	Novel Research Models and Their Utility in Studying Human Neurological Disease
6:30–8:30 p.m.	Parkinson's Disease Social
6:30–8:30 p.m.	Simons Foundation Autism Research Initiative (SFARI) Social
7–8 p.m.	Sleep and Bidirectional Changes in Synaptic Plasticity: The Untold Story
8-10 p.m.	Sleep and Circadian Biology DataBlitz
6:30–8 p.m.	Sleep Research Society Club Hypnos Membership Reception
6:30–8:30 p.m.	Synapse Social
6:30–9:30 p.m.	Washington University in St. Louis Neuroscience Reception
Tuesday, Nov. 6	
6:30–9:30 p.m.	Friends of Iowa Neuroscience
6:30–8:30 p.m.	The Science Bridge and Middle Eastern Neuroscientists Social

REGISTRATION

Bonus Day opens Tuesday, July 10 at noon EDT for members who renewed their membership by Jan. 31, 2018.

- **Advance** Opens July 11 at noon EDT for all members; July 17 at noon EDT for nonmembers
- **Online Discount** Opens October 3 at midnight EDT and continues through the annual meeting
- **On-Site In Line** Opens November 3 at 7:30 a.m. PDT and continues through the annual meeting

Registration Category	Advance	Online Discount	On-Site
Member	\$400	\$460	\$550
Member, Category II	\$165	\$195	\$235
Member, Category III	\$235	\$260	\$305
Postdoctoral Member	\$300	\$345	\$415
Postdoctoral Member, Category II	\$105	\$125	\$145
Postdoctoral Member, Category III	\$165	\$190	\$230
Student Member	\$200	\$230	\$275
Student Member, Category II	\$70	\$80	\$100
Student Member, Category III	\$110	\$130	\$155
Student Member, Undergraduate	\$100	\$115	\$140
Student Member, Undergraduate Category II	\$35	\$40	\$50
Student Member, Undergraduate Category III	\$55	\$65	\$80
Nonmember	\$720	\$830	\$995
Student Nonmember	\$360	\$415	\$495
Guest – Nonscientific	\$60	\$65	\$75
Continuing Medical Education CME	\$100	\$115	\$135

Accepted Forms of Payment
MasterCard, Visa, American Express, Discover, checks or money orders in U.S. dollars drawn on a U.S. bank and made payable to the Society for Neuroscience, and cash (on-site only).

Place Your Registration on Hold for Organization/Company Payment
The Registration on Hold option is available for online credit card payments only. Individuals who require their organization or company to pay for their registration may select this option. You may start the registration process and select the “Registration on Hold” option. This will allow you to place your registration on hold until SfN receives payment. An email will be sent to you and the payer with a link allowing the payer to submit payment for the registration.

For the advance registration fee to apply, payment must be received by the advance registration deadline: Tuesday, October 2, at 11:59 p.m. EDT. After this date, higher registration fees will apply.

NOTE: Your registration is not complete until SfN receives payment, and housing reservation access won't be permitted until payment has been made.

Contact Information
sfnregistration@xpressreg.net
(888) 736-6690 (U.S. and Canada)
+1 (508) 743-8563 (International)
9 a.m.–5 p.m. EDT

Code of Conduct at SfN Events
SfN is committed to supporting discovery and scientific dialogue, and to fostering a welcoming community in which all scientists are able to contribute fully. The Society asserts that sexual harassment and other harassing behaviors have no place in a healthy scientific enterprise. We expect all attendees, media, speakers, volunteers, organizers, venue staff, guests, and exhibitors at SfN-organized events to help us ensure a safe and positive environment. At the convention center, onsite medical and security personnel are available directly or through the SfN headquarters office.
If attendees experience unwelcome or unsafe situations anywhere in the city, attendees should swiftly contact local authorities (dial 9-1-1), and additional local social services resources are listed in one convenient location at the federal website www.changingourcampus.org. Any official report of sexual harassment should be brought to the designated Human Resources Officer in the SfN headquarters office at each meeting convention center, or sent via email to hrofficer@sfn.org. The HR Officer will facilitate the completion of a report by a complainant.
For more information on SfN's policy, please go to: sfn.org/Member-Center/Professional-Conduct/Code-of-Conduct-at-SfN-Events.

PRINTED PROGRAMS

As part of its commitment to environmental stewardship and resource conservation, the Society has enhanced its digital offerings for accessing scientific program content in order to reduce the overall number of printed program books. All Neuroscience 2018 program information will be accessible free of charge via the following methods:

- Neuroscience 2018 Mobile App: The meeting app will be available as a free download on iPad, iPhone, and Android devices. This year's app is better than ever, with improved schedule features, more detailed map views, and new exhibitor search functionality. This tool will be available in the fall.
- Neuroscience Meeting Planner: The NMP lists all program content and allows you to build your schedule before you arrive in San Diego. NMP computer terminals also will be available on site in the convention center. The NMP will be available in late August.
- Annual Meeting Website: PDF versions of the daily program books will be available online prior to the annual meeting.

Fees for printed program books are as follows:

SfN Members

- Full Program Set: \$35 (\$40 after Oct. 2)
- Individual Daily Books: \$17

Nonmembers

- Full Program Set: \$45 (\$50 after Oct. 2)
- Individual Daily Books: \$22

Note: No refunds will be issued for program purchases after Tuesday, Oct. 2.



TRAVEL RESOURCES

Airport

San Diego International Airport

san.org

Phone: (619) 400-2400

Located 3 miles (5 km) from downtown San Diego

International Attendees

Visa Information

If you are from a nation participating in the Visa Waiver Program, review U.S. travel regulations early to ensure compliance. For more information and to request an official invitation letter, visit SfN.org/visainfo.

Hotel Information

Housing for advance registered members who renewed by Jan. 31, 2018, opens Tuesday, July 10, at noon EDT; for all other members Wednesday, July 11, at noon EDT; and for advance nonmembers Tuesday, July 17, at noon EDT. Housing reservations will be open through Friday, October 5.

- Reservations can be made online or by phone, fax, or email. Online hotel reservations are encouraged and will be given priority. Reservations are not accepted directly by participating hotels or SfN headquarters.

- The Hilton San Diego Bayfront, Manchester Grand Hyatt San Diego, and Marriott Marquis San Diego Marina are the official co-headquarters hotels.

Reservation Policies and Procedures

- To make a hotel reservation through SfN Housing, you must be registered for Neuroscience 2018. Only one hotel room may be reserved per paid registrant until August 20.
- Upon registering, each attendee will receive a unique registration confirmation number that is required to make a hotel reservation. Reservations must be guaranteed with a valid credit card or check deposit.
- SfN Housing will make your reservation based on your requests; however, special requests cannot be guaranteed. It is the attendee's responsibility to reconfirm requests directly with the assigned hotel prior to arrival.

- A limited number of lower-priced hotel rooms have been set aside through August 27 for students and member category I, II, and III registrants.

- Housing for exhibitors opens July 24. For exhibitor hotel reservation information, visit SfN.org/exhibits.

- You may change or cancel hotel reservations until Friday, October 5.

Contact Information

SfNSupport@cmrus.com

(866) 999-3093 (U.S. and Canada)

+1 (415) 268-2091 (International)

9 a.m.–9 p.m. EDT

Shuttle Service

The Society will provide complimentary shuttle service to and from the San Diego Convention Center and most SfN-contracted hotels from Saturday, November 3 through Wednesday, November 7. Shuttle routes and intervals of service will be available online this summer.

On-Site Attendee Resources

Child care services, infant care facilities, scooter/wheelchair rentals, a prayer room, American Sign Language translations, and real-time captioning of lectures will be offered during Neuroscience 2018. For additional information, please visit SfN.org/attendeeresources. If you have a disability or special need that may affect your participation in the annual meeting, or if you have questions regarding attendee resources, please contact meetings@sfn.org.



ANNUAL MEETING CONTRIBUTORS

The Society for Neuroscience gratefully acknowledges the generous support of the following event contributors:

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Biogen

- Trainee Professional Development Awards



The Dana Foundation

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David Kopf Instruments

- David Kopf Lecture on Neuroethics



Eli Lilly and Company Foundation

- Julius Axelrod Prize



Elsevier

- Dialogues Between Neuroscience and Society Lecture



eNeuro

- International Fellows, Diversity Fellows, and Trainee Professional Development Awardee Poster Sessions
- Graduate Student Reception



Friends of SfN Fund

- Trainee Professional Development Awards



The Grass Foundation

- Albert and Ellen Grass Lecture
- Donald B. Lindsley Prize in Behavioral Neuroscience
- Latin America Training Program Challenge Grant



The Gruber Foundation

- Peter and Patricia Gruber International Research Awards in Neuroscience
- Peter and Patricia Gruber Lecture



Janssen Research and Development LLC

- Presidential Special Lecture



JNeurosci

- International Fellows, Diversity Fellows, and Trainee Professional Development Awardee Poster Sessions
- Graduate Student Reception

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- Neurobiology of Disease Workshop



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- Young Investigator Award



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- Swartz Prize for Theoretical and Computational Neuroscience



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Page 7: A confocal micrograph of a sagittal brain section showing the axonal projection from the external globus pallidus to the dorsal striatum in an Npas1-Cre mouse. Kelly E. Glajch, Daniel A. Kelver, Daniel J. Hegeman, Qiaoling Cui, Harry S. Xenias, Elizabeth C. Augustine, Vivian M. Hernández, Neha Verma, Tina Y. Huang, Minmin Luo, Nicholas J. Justice and C. Savio Chan. *Journal of Neuroscience* 18 May 2016, 36 (20) 5472-5488.

Page 15: Confocal image of flat-mounted adult mouse retina showing Iba1-positive ramified microglia (red) of naïve retina. Co-immunostaining for β III-tubulin (cyan) was used to detect retinal ganglion cells and their axons in the ganglion cell layer. Alexander M. Hilla, Heike Diekmann and Dietmar Fischer. *Journal of Neuroscience* 21 June 2017, 37 (25) 6113-6124.

Page 16: This image is an artistic rendering of a mitral cell-granule cell circuit in the mouse olfactory bulb. Longwen Huang, Kevin Ung, Isabella Garcia, Kathleen B. Quast, Keith

Cordiner, Peter Saggau and Benjamin R. Arenkiel. *Journal of Neuroscience* 24 August 2016, 36 (34) 8856-8871.

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KEY DATES

Bonus Day Registration Opens July 10

For members who activated their 2018 membership by January 31

Advance Member Registration Opens July 11

Advance Nonmember Registration Opens July 17

Visit SfN.org/prelim18 for details and updates.

