PRELIMINARY PROGRAM

CHICAGO, ILLINOIS • OCTOBER 19–23

NEUROSCIENCE
2019

1969–2019

SOCIETY *for* NEUROSCIENCE

CELEBRATING 50 YEARS

1969–2019

SOCIETY *for* NEUROSCIENCE

CELEBRATING 50 YEARS

CELEBRATE 50 YEARS OF GLOBAL SCIENTIFIC EXCHANGE

SfN is excited to commemorate our 50th year of supporting advances in global neuroscience research and the members who are dedicated to furthering the field. Look out for exclusive 50th anniversary content being released throughout 2019 — and celebrate with us at special events planned for this year's meeting.

Will you be a part of our next 50 years? Join SfN's global community and access year-round resources for supporting your critical work in advancing the field. As an SfN member, you will also enjoy significantly reduced registration rates for Neuroscience 2019. *Details on page 22.*

PRESIDENTIAL SPECIAL LECTURES

From Base Pairs to Bedside: Antisense Modulators of RNA Splicing to Treat Neurological Diseases CME

Adrian R. Krainer, PhD
Cold Spring Harbor Laboratory
Saturday, October 19, 5:15–6:30 p.m.

Nusinersen, the first FDA-approved drug for spinal muscular atrophy (SMA), exemplifies a successful path from basic studies to an effective therapy. It is an antisense oligonucleotide (ASO) that modulates alternative splicing of SMN2, increasing functional SMN protein in motor neurons. After clinical trials in SMA infants and children, nusinersen was approved in 2016. This lecture will describe the development of this drug and its clinical impact. Using a similar approach, an ASO was developed to correct defective RNA splicing of IKBKAP, which causes familial dysautonomia.

Understanding Cortical Development and Disease: From Embryos to Brain Organoids CME

Paola Arlotta, PhD
Harvard University
Support contributed by: Tianqiao and Chrissy Chen Institute
Sunday, October 20, 5:15–6:30 p.m.

Much remains unknown regarding the cellular and molecular mechanisms governing mammalian brain development. Focusing on the cerebral cortex, this lecture will present data on the mechanistic principles that control the developmental generation of cellular diversity *in vivo*, and consider to what extent processes of cortical development can be replicated outside the embryo, within brain organoids. This lecture will also discuss the challenges of modeling human corticogenesis in the dish, and the promise that brain organoids hold to investigate complex human neurodevelopmental disease.

IMMERSE YOURSELF IN SCIENCE

Neuroscience 2019 offers an unparalleled scientific experience. Join SfN and nearly 30,000 members of our global community.

- Explore the breadth of the field
- Learn from leading minds
- Develop your next professional collaboration
- Get feedback on your research
- Try out the latest tools and technologies
- Take the next step in your education or career

WWW.SfN.ORG/JOIN2019PRELIM

Program details are preliminary and subject to change.

PRESIDENTIAL SPECIAL LECTURES

The Cell Biology of the Synapse and Behavior CME

Daniel A. Colón-Ramos, PhD
Yale University School of Medicine
Monday, October 21, 5:15–6:30 p.m.

When, where, and how synapses form underpin the architecture of the nervous system and behaviors. Synapses are both precisely assembled during development and flexible during learning and memory. How can synapses be both precise and malleable to facilitate both the assembly and function of the brain? This lecture will discuss new findings that link the fundamental cell biological properties of single synapses to how they underpin the emergent property of the nervous system: behavior.

Wavefront Engineering: Illuminating the Neural Landscape CME

Valentina Emiliani, PhD
Vision Institut (CNRS, INSERM, Sorbonne University)
Tuesday, October 22, 5:15–6:30 p.m.

The revolution of optogenetics has opened perspectives in both fundamental and medical neuroscience unimaginable 10 years ago. Joint progress in the design of microbial opsins and in the shaping of wave fronts to precisely guide light through tissues is now bringing the field into a new phase that we can call "circuit optogenetics," where neural circuits distributed across several brain areas can be optically interrogated and controlled with millisecond precision and single-cell resolution.

FEATURED LECTURES

DIALOGUES BETWEEN NEUROSCIENCE AND SOCIETY

Support contributed by: Elsevier

Fei-Fei Li, PhD
Stanford Human-Centered AI Institute
Saturday, October 19, 11 a.m.–1 p.m.

PETER AND PATRICIA GRUBER LECTURE

Molecular Basis of the Circadian Clock in Mammals and Its Fundamental Role in Aging and Longevity

Joseph S. Takahashi, PhD
University of Texas Southwestern Medical Center and Howard Hughes Medical Institute
Support contributed by: The Gruber Foundation
Sunday, October 20, 2:30–3:40 p.m.

The molecular basis of circadian clocks involves a 24-hour autoregulatory transcriptional network that is cell-autonomous and widely expressed. The suprachiasmatic nucleus acts as master pacemaker, but peripheral oscillators can respond to proximal signals. In addition to behavior and physiology, the clock gene network interacts directly with many other pathways in the cell. With respect to metabolism, the timing of nutrient consumption is critical, and restricting the timing of feeding has many health benefits that impact aging, health span, and longevity.

HISTORY OF NEUROSCIENCE LECTURE

Exocytosis of Synaptic Vesicles: From Quantal Release to Molecular Machines 50

Reinhard Jahn, PhD
Max Planck Institute for Biophysical Chemistry
Monday, October 21, 10–11:10 a.m.

At chemical synapses, depolarization-induced calcium influx triggers neurotransmitter release, a key step in synaptic signaling. In the 1950s, Katz found that transmitter release is quantal, and synaptic vesicles were discovered. In the following decades, recycling routes for synaptic vesicle and for neurotransmitters were worked out, but only since the mid-1980s are the molecular mechanisms governing the steps in synaptic vesicle cycling becoming known. The history of the field will be briefly reviewed, focusing on exocytosis and membrane fusion.

FEATURED LECTURES

ALBERT AND ELLEN GRASS LECTURE

Neural Learning Rules in the Cerebellum CME

Jennifer L. Raymond, PhD
Stanford University School of Medicine
Support contributed by: The Grass Foundation
Monday, October 21, 3:15–4:25 p.m.

The cerebellum is known for its role in motor learning, and is increasingly implicated in cognitive functions such as navigation, reward prediction, emotion, and social behavior. Its simple, repeated circuit architecture facilitates study of the functional links between events occurring at the molecular, cellular, circuit and behavioral levels as the cerebellum computes. By leveraging this analytical advantage, recent work has yielded new insight in the principles governing how neural circuits tune their performance through experience.

DAVID KOPF LECTURE ON NEUROETHICS

The Neuroethics Frontier

Nita Farahany, JD, PhD
Duke University
Support contributed by: David Kopf Instruments
Tuesday, October 22, 2:30–3:40 p.m.

How should we think about our emerging capabilities of accessing and altering human brains, particularly in light of advances in genome-editing technologies? This lecture will focus on the ethical, legal, and social issues arising from accessing and altering human brains. It will discuss consumer neuro-technologies, corporate interests in accessing and changing brains, and government attempts to do the same. It will also consider the current and future potential directions of these neuroethical issues, particularly in light of recent controversies about human genome-editing.

SPECIAL LECTURES

THEME A: DEVELOPMENT

Molecular Mechanisms Underlying Activity-Dependent Neural Circuit Development and Plasticity CME

Xiang Yu, PhD

Institute of Neuroscience, Chinese Academy of Sciences

The mammalian brain is highly plastic. Experience, both positive and negative, affects how neural circuits are wired, with long lasting effects on the well-being of the individual. This lecture will discuss the molecular mechanisms through which sensory experience and environmental factors affect neural circuit development and plasticity, focusing on plasticity mechanisms that may be unique to early development. The relevance of these mechanisms to developmental neurological disorders, especially autism spectrum disorders, will also be highlighted.

THEME B: NEURAL EXCITABILITY, SYNAPSES, & GLIA

Neuronal Activity-Dependent Myelination: A Mechanism for Learning and Repair? CME

Ragnhildur T. Karadottir, PhD

University of Cambridge

Myelin is essential for normal brain function, and alterations in myelin are increasingly implicated as a mechanism for learning. The importance of myelin is evident in diseases where damage to myelin leads to physical and cognitive disabilities. Uniquely within the central nervous system, myelin can regenerate; but this often fails, causing sustained clinical deficits. This lecture will cover the progress made in understanding myelination, with a focus on activity-dependent myelination, and explore how the underlying mechanisms of myelin plasticity may underpin myelin regeneration.

THEME C: NEURODEGENERATIVE DISORDERS & INJURY

Aberrant Phase Separation in Neurodegenerative Disease CME

Anthony A. Hyman, PhD

Max Planck Institute of Cell Biology & Genetics

Cells organize many of their biochemical reactions by formation and dissolution of non-membrane-bound compartments. Recent experiments show that a common mechanism for such biochemical organization is phase separation of unstructured proteins to form liquid-like compartments. These liquid-like compartments can be described by principles elucidated from condensed-matter physics and are therefore termed biomolecular condensates. This lecture will cover the relationship between the formation of liquid-like compartments, quality control mechanisms that preserve the liquid-like state, and the onset of aggregated-protein pathology that is commonly observed in neurodegenerative diseases.

SPECIAL LECTURES

THEME C: NEURODEGENERATIVE DISORDERS & INJURY

Leveraging Brain Rhythms as a Therapeutic Intervention for Neurodegenerative Diseases CME

Li-Huei Tsai, PhD
Massachusetts Institute of Technology

Gamma rhythms (30–80 Hz) are modulated during cognition, and impaired gamma rhythms have been associated with Alzheimer's disease (AD). But do they play a causal role? New evidence shows that non-invasive sensory stimulation of 40 Hz rhythm power and synchrony in AD mouse models reduces AD-like pathology and enhances cognitive function. Research is ongoing to understand the mechanisms underlying the beneficial effects of 40 Hz stimulation and to translate this intervention for human patients.

THEME D: SENSORY SYSTEMS

Active Touch, Pain, and Anesthesia CME

Fan Wang, PhD
Duke University Medical Center

This lecture will discuss studies aimed at understanding the neural basis of somatosensory perception. Specifically, three areas of research will be presented including: peripheral and brainstem sensory and motor circuits underlying exploratory touch behaviors; neural circuits processing the sensory-discriminative and the affective aspects of orofacial pain; and neural circuits mediating the analgesic (pain-suppression) functions of general anesthesia, especially the identification of an anesthesia-activated circuit in the amygdala that potently suppresses pain.

THEME E: MOTOR SYSTEMS

Comparative Neurobiology of Vocal Communication CME

Michael A. Long, PhD
New York University School of Medicine

Vocal communication is central to our everyday lives, facilitating social exchange. Despite significant recent discoveries, the neural mechanisms underlying coordinated vocal exchanges remain poorly understood. This lecture will examine the brain processes involved in interactive vocal behaviors, focusing on forebrain circuitry in the songbird and the rodent, and will relate these to emerging human studies that employ a range of methods to manipulate and monitor cortical areas relevant for speech.

THEME E: MOTOR SYSTEMS

Neural Mechanisms of Short-Term Memory and Motor Planning CME

Karel Svoboda, PhD
Howard Hughes Medical Institute, Janelia Research Campus

Motor planning plays key roles in motor control. Movements that are preceded by periods of motor planning are faster and more accurate than in the absence of planning. Motor planning is also a prospective form of short-term memory that links past events and future movements. During motor planning, neurons in the motor cortex show persistent activity related to specific movements, long before movement onset, in the absence of sensory input. This lecture will discuss how multi-regional neural circuits maintain this selective persistent activity and how this activity relates to behavior.

SPECIAL LECTURES

THEME F: INTEGRATIVE PHYSIOLOGY AND BEHAVIOR

Flies and Alcohol:
An Interplay of Nature and Nurture CME

Ulrike Heberlein, PhD
Howard Hughes Medical Institute, Janelia Research Campus

Alcoholism is a major problem in medicine and society, yet few effective therapies are available for its treatment. This lecture will discuss the development and use of the fruit fly *Drosophila melanogaster* as a model system to identify genes, molecular pathways, and neural circuits that mediate the highly conserved behavioral responses to alcohol.

THEME G: MOTIVATION AND EMOTION

The Neurobiology of Long-Term Memory: Key Molecules, Diverse Cell Types, Temporal Dynamics, and Critical Periods CME

Cristina M. Alberini, PhD
New York University

Long-term memory formation and storage are complex and dynamic processes. What types of molecular and cellular mechanisms underlie this complexity? This lecture will describe key biological mechanisms regulated in response to learning, their expression in diverse cell types, their temporal dynamics, and their roles in long-term memory formation, storage, as well as changes induced by memory recall. It will also discuss how the biological mechanisms engaged in long-term memory formation and storage change over development.

THEME G: MOTIVATION AND EMOTION

CLINICAL NEUROSCIENCE LECTURE:
From Pecking Order to Ketamine: Neural Mechanisms of Social and Emotional Behaviors CME

Hailan Hu, PhD
Zhejiang University School of Medicine

Emotions and social interactions color our lives and shape our behaviors. Using animal models and engineered manipulations, we aim to understand how social and emotional behaviors are encoded, focusing on the neural circuits underlying dominance hierarchy and depression. This lecture will highlight recent discoveries on the interplay between winning history and prefrontal circuit activities; the impact of social status loss on depression; and how ketamine tames depression by blocking bursts in the brain's anti-reward center, involving a surprising role of glia.

THEME H: COGNITION

The Brain From Inside Out CME

Gyorgy Buzsaki, MD, PhD
New York University

Is there a right way to study the brain? The current "outside-in" approach examines neural reactions to external stimuli. It has fueled a generation of extraordinary brain research but now it must confront its limits and hidden assumptions. The brain is a foretelling device that interacts with its environment through action and the examination of action's consequence. It is not an information-absorbing coding device but a venture-seeking explorer constantly controlling the body to test its hypotheses. Our brain does not process information: it creates it.

SPECIAL LECTURES

THEME H: COGNITION

Evolution and Dissolution of Memories Over Time CME

Eleanor A. Maguire, PhD
University College London

Autobiographical memories are the ghosts of our past. Through them we visit places long departed, see faces once familiar, and hear voices now silent. These often decades-old personal experiences can be recalled on a whim or come unbidden into our everyday consciousness. This lecture will focus on examining not only how autobiographical memories evolve in the brain over time, but also how our understanding of this process has developed through the 50 years of the Society for Neuroscience.

THEME H: COGNITION

Neural Codes for Natural Behaviors in Flying Bats CME

Nachum Ulanovsky, PhD
Weizmann Institute of Science

"Natural Neuroscience" aims to decipher the neural mechanisms of natural behaviors in freely-moving animals. This lecture will focus on studies of neural codes for space, time, and social behaviors in flying bats using wireless neurophysiology methods. It will highlight new neuronal representations discovered in animals navigating through complex, 3D, or large-scale environments, or engaged in social interactions. The lecture will posit that neuroscience experiments — in bats, rodents, or humans — should be conducted under evermore naturalistic settings.

THEME I: TECHNIQUES

Theoretical Neuroscience: Decision Making and Its Discontents CME

Peter Dayan, PhD
Max Planck Institute for Biological Cybernetics

Theoretical neuroscience comes in three intertwined strands: data analysis, which is of ever greater importance in the present age of burgeoning big neural data; mathematical neuroscience, offering quantitative accounts spanning levels of description; and computational neuroscience, predicated on the fact that brains solve complex information processing problems. This lecture will review elements of each of these, focusing on the ever richer understanding of normal and dysfunctional affectively-charged decision-making.

THEME I: TECHNIQUES

Extracting Function from Structure: Lessons from the Fly Connectome CME

Gerald M. Rubin, PhD
Howard Hughes Medical Institute, Janelia Research Campus

A connectome of the *Drosophila* central nervous system will soon be available, providing the first glimpse of synaptic-level connectivity of the brain of an animal with sophisticated behavior. The challenge now is to use this information — together with genetically targeted physiology and perturbation during behavior — to understand the neural basis of perception, sleep, associative learning, navigation, and more.

SYMPOSIA AND MINISYMPOSIA

THEME A: DEVELOPMENT

Minisymposium
Adult Hippocampal Neurogenesis in Humans and Rodents: New Evidence and New Perspectives CME
Chair: Juan Song, PhD
Co-Chair: Shaoyu Ge, PhD

Symposium
Circuit Variability and Plasticity in the Central Nervous System of *Drosophila* CME
Chair: Gaia Tavosanis, PhD
Co-Chair: Bassem A. Hassan, PhD

Symposium
From Single-Cell Profiling to Human Brain Organoids: Capturing Neural Development and Disease CME
Chair: Sergiu P. Pasca, MD
Co-Chair: Hongjun Song, PhD

Minisymposium
Functional Maturation of Cerebello-Cerebral Interactions CME
Chair: Freek E. Hoebeek, PhD
Co-Chair: Roy V. Sillitoe, PhD

Minisymposium
Mechanisms of Basal Ganglia Maturation: Insights Into Health and Disease CME
Chair: Rui Peixoto, PhD
Co-Chair: Ori Lieberman

Minisymposium
New Insights in Understanding Fragile X Syndrome (FXS): Focus on Neural Development in Human Models and Non-Neuron Glial Cells CME
Chair: Yongjie Yang, PhD
Co-Chair: Gary J. Bassell, PhD

Minisymposium
Novel Mechanisms of Neuronal Alternative Splicing and Strategies to Correct Aberrant-Splicing CME
Chair: Eduardo J. Lopez Soto, PhD

THEME B: NEURAL EXCITABILITY, SYNAPSES, AND GLIA

Minisymposium
Cell-Type Specificity, Strength, and Dynamics of Long-Range Synaptic Input CME
Chair: Gabe J. Murphy, PhD
Co-Chair: Leopoldo T. Petreanu, PhD

Symposium
Dissecting Cerebellar Function: A Prototypical Circuit Critical for Motor Learning and Cognition CME
Chair: Michisuke Yuzaki, MD, PhD

Minisymposium
Novel Mechanistic Roles for Sodium Channels in Neurodevelopmental Disorders CME
Chair: Kevin J. Bender, PhD
Co-Chair: Ethan M. Goldberg, MD, PhD

Minisymposium
Pleiotropic Mitochondria: The Influence of Mitochondria on Neuronal Development and Disease CME
Chair: Julien Courchet, PhD
Co-Chair: Seok-Kyu Kwon, PhD

Minisymposium
The Gut-Brain Axis in Health and Brain Disease CME
Chair: Arthur Liesz, MD
Co-Chair: Jane A. Foster, PhD

Minisymposium
The Synaptic Vesicle Cycle Revisited: New Insight Into the Modes and Mechanisms CME
Chair: Jennifer R. Morgan, PhD
Co-Chair: Shigeki Watanabe, PhD

THEME C: NEURODEGENERATIVE DISORDERS AND INJURY

Symposium
CNS Scarring, Inflammation, and Repair CME
Chair: Christian Goeritz, PhD
Co-Chair: Michael V. Sofroniew, MD, PhD

Symposium
Comparing Dopamine Metabolism in Mouse and Human Neurons: Relevance for Parkinson's Disease CME
Chair: Dimitri Krainc, MD, PhD

SYMPOSIA AND MINISYMPOSIA

Minisymposium
Myelin Degeneration and Remyelination in Health and Disease CME
Chair: Carlos E. Pedraza, PhD
Co-Chair: Tarek Samad, PhD

Minisymposium
Necroptosis and Other Non-Apoptotic Processes in Microglial Pathophysiology and Neurologic Diseases CME
Chair: Dimitry Ofengeim, PhD

Minisymposium
Phenotype Suppression in Neurodegeneration CME
Chair: Kristi Wharton, PhD

Symposium
The Molecular and Spatial Complexity of Tau: What Forms and Loci to Target? CME
Chair: Dominic M. Walsh, PhD

THEME D: SENSORY SYSTEMS

Minisymposium
Expecting the Unexpected: Cortical Circuits for Novelty Detection CME
Chair: Jordan P. Hamm, PhD

Symposium
New Approaches to Vision Restoration CME
Chair: Joshua R. Sanes, PhD
Co-Chair: Paul A. Sieving, MD, PhD

Minisymposium
Parabrachial Complex: A Hub for Pain and Aversion CME
Chair: Mary M. Heinricher, PhD

Minisymposium
Progress in Pain and Itch Research CME
Chair: Qin Liu, PhD
Co-Chair: Hongzhen Hu, MD, PhD

Minisymposium
Sensory Circuits for Vision and Smell: Integrating Molecular, Anatomical, and Functional Maps CME
Chair: Alexander Fleischmann, PhD
Co-Chair: Andreas T. Schaefer, PhD

Minisymposium
What Do Neurons Want? CME
Chair: Gabriel Kreiman, PhD
Co-Chair: Carlos R. Ponce, MD, PhD

THEME E: MOTOR SYSTEMS

Minisymposium
Adaptive Control of Movements and Emotional States by the Cerebellum CME
Chair: Reza Shadmehr, PhD

Minisymposium
Beta Oscillations in Sensorimotor Function, Executive Action Control, and Working Memory CME
Chair: Robert Schmidt, PhD
Co-Chair: Adam R. Aron, PhD

BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLES

Exoskeletons and Robotics for Neurorehabilitation CME
Organizer: Ann M. Spungen, EdD

Gene Therapy in Neurological Diseases CME
Organizer: Asa Abeliovich, MD, PhD

Mechanisms of Drug Addiction: A Translational Perspective CME
Organizer: Trevor W. Robbins, PhD

Minisymposium
Gain Control in the Sensorimotor System: From Neural Circuit Organization to Behavioral Function CME
Chair: Kazuhiko Seki, PhD
Co-Chair: Eiman Azim, PhD

Minisymposium
The Neural Basis of Manual Dexterity CME
Chair: Sliman J. Bensmaia, PhD

SYMPOSIA AND MINISYMPOSIA

THEME F: INTEGRATIVE PHYSIOLOGY & BEHAVIOR

Symposium
Cortical Disinhibitory Circuits: Cell Types, Connectivity, and Function CME
Chair: Lisa Topolnik, PhD
Co-Chair: Klas Kullander, PhD

Minisymposium
Insights Into Neural Coding and Behavior From Large-Scale Population Recordings Across Cortical Areas CME
Chair: Jerry L. Chen, PhD

Symposium
Neural Circuit and Plasticity Mechanisms of Cognitive Control of Feeding Behavior CME
Chair: Gorica D. Petrovich, PhD

Minisymposium
Redefining Neuromodulation of Behavior: Impact of a Modular Locus Coeruleus Architecture CME
Chair: Nelson K. B. Totah, PhD

Minisymposium
Regulation and Dysregulation of Activity Homeostasis in Central Neural Circuits CME
Chair: Inna Slutsky, PhD
Co-Chair: Samuel Barnes, PhD

Minisymposium
Sex Differences in Drug Craving and Addiction-Like Behaviors in Rodent Models CME
Chair: Mathieu E. Wimmer, PhD
Co-Chair: Jessica A. Loweth, PhD

THEME G: MOTIVATION & EMOTION

Minisymposium
Brain Circuits for the Selection and Scaling of Defensive Behavior CME
Chair: Stephen Maren, PhD

Minisymposium
Cannabis and the Developing Brain: Insights Into Its Long-Lasting Effects CME
Chair: Yasmin Hurd, PhD
Co-Chair: Miriam Melis, PhD

Symposium
Epigenetic Mechanisms: Shared Pathology Across Brain Disorders CME
Chair: Eric J. Nestler, MD, PhD
Co-Chair: Zhen Yan, PhD

Symposium
The Paraventricular Thalamus (PVT): Salience and Timing Orchestrator for Learning and Deciding CME
Chair: Seema Bhatnagar, PhD
Co-Chair: Tallie Z. Baram, MD, PhD

Minisymposium
Ventral Tegmental Area (VTA) Cell Heterogeneity in Health and Disease CME
Chair: Nicholas W. Gilpin, PhD
Co-Chair: Elyssa B. Margolis, PhD

THEME H: COGNITION

Minisymposium
Awakening the Engram: The Etiological Role of Engram Cells for Memory Formation, Storage, and Retrieval in Health and Disease CME
Chair: Johannes Gräff, PhD
Co-Chair: Tomas J. Ryan, PhD

Minisymposium
Brain Mechanisms of Concept Learning CME
Chair: Dagmar Zeithamova, PhD
Co-Chair: Michael L. Mack, PhD

Minisymposium
Cognitive Cerebellum: Role in Motivation, Emotion, Executive, Social, and Sensory Processing CME
Chair: Iaroslav A. Savtchouk, PhD
Co-Chair: June Liu, MD, PhD

Minisymposium
Grid-Like Hexadirectional Modulation of Neural Activity in Humans CME
Chair: Nanthia A. Suthana, PhD

Minisymposium
Naturalistic Paradigms in Awake Monkeys: Bridging fMRI and Extra-Cellular Activities CME
Chair: Sze Chai Kwok, PhD
Co-Chair: Brian E. Russ, PhD

Symposium
Opening the Black Box of the Hippocampus: Visualizing Memories in Distinct Cell Types, Microcircuits, and Cellular Compartments CME
Chair: Mazen Kheirbek, PhD

THEME I: TECHNIQUES

Minisymposium
Advanced Circuit and Cellular Imaging Methods in Non-Human Primates CME
Chair: Stephen L. Macknik, PhD

Minisymposium
Artificial Intelligence and Neuroscience: From Neural Dynamics to Artificial Agents CME
Chair: Jonathan W. Pillow, PhD

Minisymposium
BRAIN Initiative: Cutting-Edge Tools and Resources for the Community CME
Chair: Walter J. Koroshetz, MD

Symposium
Brain Somatic Mosaicism: Implications for Development and Disorders CME
Chair: Flora M. Vaccarino, MD
Co-Chair: Alexander E. Urban, PhD

Minisymposium
Optical Recording of Neural Transmission: From Tool Development to Applications CME
Chair: Haining Zhong, PhD
Co-Chair: Loren L. Looger, PhD

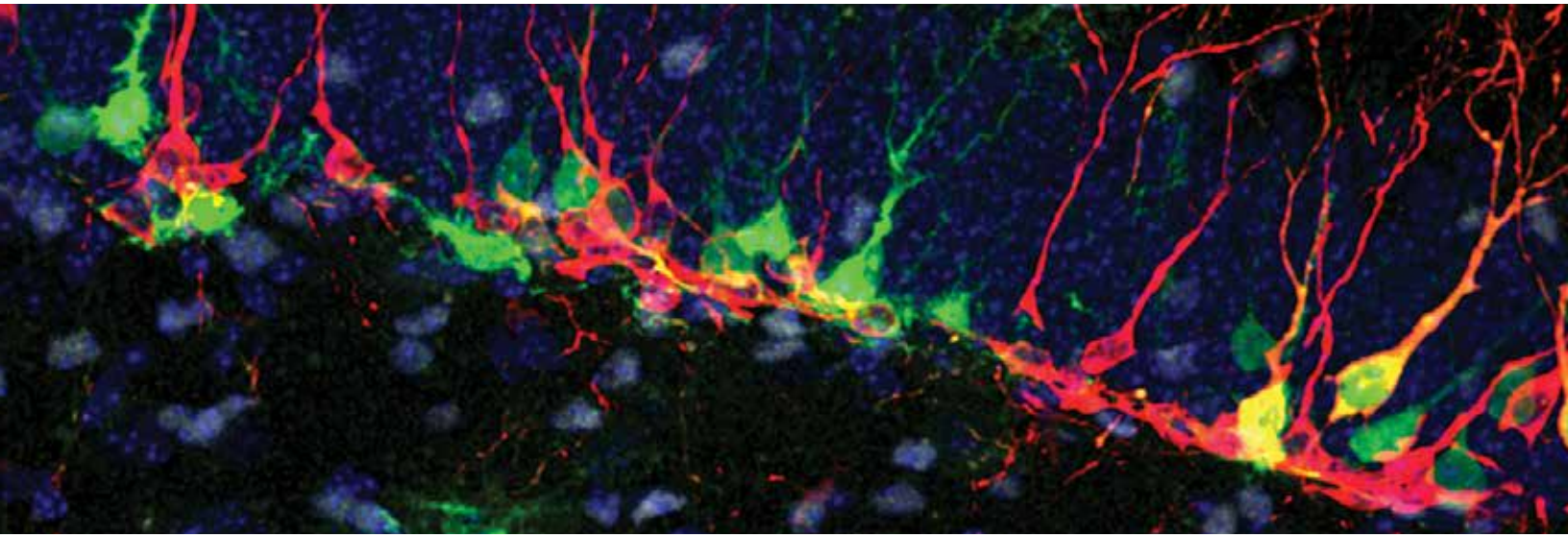
Minisymposium
Timing is Everything: Temporally Irregular Stimulation Patterns for Brain Mapping and Clinical Therapeutics CME
Chair: Alik S. Widge, MD, PhD

STORYTELLING SESSION 50

THEME J: HISTORY, EDUCATION, AND SOCIETY

The Storytelling Brain: How Neuroscience Stories Help Bridge the Gap Between Research and Society
Chair: Susana Martinez-Conde, PhD

CLINICIAN-SCIENTISTS AND CONTINUING MEDICAL EDUCATION (CME)



At Neuroscience 2019, a wealth of sessions will focus on translational and clinical research in neuroscience. The Meet-the-Clinician-Expert sessions (pg.17) will give attendees a behind-the-scenes look at factors influencing a clinician-scientist's work. Three Basic-Translational-Clinical Roundtables will discuss research topics related to exoskeletons and robotics for neurological rehabilitation, gene therapy as a way to treat rare diseases and neurodegeneration, and mechanisms of addiction. (pg.11). Additionally, the Clinical Neuroscience Lecture (pg.8) will analyze a topic in neuroscience with clinical significance. Attendees can also access the clinical neuroscience curated itinerary (available this summer), which will highlight sessions focusing on translational research. Clinician-scientist attendees can opt to earn up to 35 *AMA PRA Category 1 Credits™* while taking advantage of SfN's robust programming. Register for SfN's CME program during registration or onsite 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 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 that contains important details regarding the CME program, including disclosure information and instructions for obtaining CME credits.

ACCME ACCREDITED

PROGRAM AT A GLANCE

Friday, Oct. 18	
8 a.m.–6 p.m.	Short Course #2
8:30 a.m.–6 p.m.	Short Course #1
1–5:30 p.m.	Short Course #3
Saturday, Oct. 19	
8–9:15 a.m.	Meet-the-Expert Series / Session 1
8 a.m.–5 p.m.	NeuroJobs Career Center
9–11 a.m.	Preparing for Your Career Away From the Bench: Essential Skills for Navigating Your Career Transition
9–11 a.m.	Reproducibility for Everyone
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.	Integrating Research and Teaching at Primarily Undergraduate Institutions
Noon–2 p.m.	Confronting Imposter Syndrome
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.	Getting Creative With Course-Based Research Experiences to Generate Publishable Data
3–5 p.m.	How to Thrive as a Woman 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, Oct. 20	
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.	Symposia / Minisymposia **CME**
9–11 a.m.	Bringing Genetic Diversity to Model Organism Research
9–11 a.m.	Navigating Team Science
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.	Becoming a Resilient Scientist
Noon–2 p.m.	Science Management
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.	Building a Neuroscience Career at a Teaching Focused Institution
5:15–6:30 p.m.	Presidential Special Lecture **CME**
6:45–8:45 p.m.	SfN-Sponsored Socials
Monday, Oct. 21	
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**

PROGRAM AT A GLANCE

8:30–11 a.m.	Symposia / Minisymposia **CME**
9–11 a.m.	Advancing Your Career Through Effective Science Writing for the Public and Creating Eye-Catching Research Statements
9–11 a.m.	The Art of Building a Career
9:30 a.m.–5 p.m.	Exhibits
10–10:30 a.m.	NeuroJobs Career Center Workshop
10–11:10 a.m.	History of Neuroscience Lecture
11:30 a.m.–12:40 p.m.	Special Lecture **CME**
Noon–2 p.m.	Graduate School Fair
Noon–2 p.m.	Optimize Your Grant Application: News You Can Use From the NIH
Noon–2 p.m.	Teaching Computation in Neuroscience
1–2 p.m.	Dual Perspectives
1–3 p.m.	Animals in Research Panel
1–5 p.m.	Posters / Nanosymposia
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.	Chapters Workshop
6:45–8:45 p.m.	SfN-Sponsored Socials
Tuesday, Oct. 22	
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**
9:30 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**
2–3:30 p.m.	Public Advocacy Forum
2:30–3:40 p.m.	David Kopf Lecture on Neuroethics
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, Oct. 23	
8 a.m.–noon	Posters / Nanosymposia
8 a.m.–3 p.m.	NeuroJobs Career Center
8:30–11 a.m.	Symposia / Minisymposia **CME**
8:30–11 a.m.	Basic-Translational-Clinical Roundtable #3 **CME**
9:30 a.m.–5 p.m.	Exhibits
10:30–11:40 a.m.	Special Lecture **CME**
Noon–1:10 p.m.	Special Lecture **CME**
1–5 p.m.	Posters / Nanosymposia
1:30–2:40 p.m.	Special Lecture **CME**
1:30–4 p.m.	Symposia / Minisymposia **CME**
3–4:10 p.m.	Special Lecture **CME**

SfN PRE-CONFERENCE SESSIONS

Icon Key:

- ✍ Preregistration Required
- $ Course Fee
- 🕮 Professional Development
- ⊏⊐ Networking
- ✻ Public Outreach

SfN Pre-Conference Session Fees

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

Short Courses 1 and 2

(Includes electronic course book and lunch)

Student member	$150
Student nonmember	$225
Postdoctoral member	$225
Postdoctoral nonmember	$340
Faculty member	$295
Faculty nonmember	$445

Short Course 3

(Includes electronic course book)

Student member	$75
Student nonmember	$115
Postdoctoral member	$115
Postdoctoral nonmember	$170
Faculty member	$150
Faculty nonmember	$225

FRIDAY, OCTOBER 18

Short Course 1

Neural Prosthetics and Brain Machine Interfaces ✍ $ 🕮

8:30 a.m.–6 p.m.

Organizers: Adrienne Fairhall, PhD, and Charles Liu, MD, PhD

Contact: training@sfn.org

Short Course 2

Quantifying Behavior as a Lens Into the Brain ✍ $ 🕮

8 a.m.–6 p.m.

Organizers: Robert Datta, PhD, and Mala Murthy, PhD

Contact: training@sfn.org

Short Course 3

Beyond Diversity and Towards Inclusivity in Research ✍ $ 🕮

1–5:30 p.m.

Organizers: Carlos Aizenman, PhD; Janet Clark, PhD; Marguerite Matthews, PhD; Rosalind Segal, MD, PhD; Keith Trujillo, PhD

Contact: training@sfn.org

SATURDAY, OCTOBER 19

Meet-the-Expert Series Session 1 🕮 ⊏⊐

Contact: profdev@sfn.org

8–9:15 a.m.

Understanding Cortical Development and Disease: My Path to Discovery

Paola Arlotta, PhD

Theme A: Development

Clinical Trialists Path: Building Teams

Merit Cudkowicz, MD

Meet-the-Clinician Expert

Theme C: Neurodegenerative Disorders and Injury

Functional Regeneration Beyond the Glial Scar

Jerry Silver, PhD

Theme C: Neurodegenerative Disorders and Injury

Support contributed by: Thorlabs, Inc.

Circuit Dynamics: A Fly Perspective

Gaia Tavosanis, PhD

Theme D: Sensory Systems

Support contributed by: Thorlabs, Inc.

I Can't Believe They Pay Me to Have Fun: The Privilege of Being a Scientist

Kamran Khodakhah, PhD

Theme E: Motor Systems

Translating Neuroscience: Obstacles and Opportunities

Kafui Dzirasa, MD, PhD

Theme G: Motivation and Emotion

Twenty Years of Fear Research and Mentoring in Puerto Rico

Gregory Quirk, PhD

Theme G: Motivation and Emotion

Support contributed by: Thorlabs, Inc.

Meet-the-Expert Series Session 2 🕮 ⊏⊐

Contact: profdev@sfn.org

9:30–10:45 a.m.

Understanding Molecules, Synapses, and Neural Plasticity: Awesome Power of Genetics

Yishi Jin, PhD

Theme A: Development

Myelin Plasticity: From Cognition to Cancer

Michelle Monje-Deisseroth, MD, PhD

Theme B: Neural Excitability, Synapses, and Glia

Seeing and Remembering What We've Seen

Nicole Rust, PhD

Theme D: Sensory Systems

Disuse Drives Plasticity in Human Brain Networks

Nico Dosenbach, MD, PhD

Meet-the-Clinician Expert

Theme E: Motor Systems

Lessons for Songbirds and Scientists: Learning to Communicate More Effectively by Listening to Others

Yoko Yazaki-Sugiyama, PhD

Theme H: Cognition

Engineering Viral Vectors for Non-Invasive and Specific Gene Delivery to the Brain and Body

Viviana Gradinaru, PhD

Theme I: Techniques

NETWORKING, PUBLIC OUTREACH, AND ADVOCACY

SATURDAY, OCTOBER 19

NeuroJobs Career Center
Saturday, October 19–Tuesday, October 22, 8 a.m.–5 p.m.
Wednesday, October 23, 8 a.m.–3 p.m.
Contact: neurojobs@sfn.org

Meeting Mobile App Tutorial
10–11 a.m.
Contact: program@sfn.org

Graduate School Fair
Saturday, October 19, 1–3 p.m.
Sunday, October 20–Tuesday, October 22, noon–2 p.m.
Contact: training@sfn.org

Brain Awareness Campaign Event ⁕
2:30–4 p.m.
Contact: baw@sfn.org

Diversity Poster Session
6:30–8:30 p.m.
Contact: nsp@sfn.org

International Fellows Poster Session
6:30–8:30 p.m.
Contact: globalaffairs@sfn.org

Trainee Professional Development Awards Poster Session
6:30–8:30 p.m.
Contact: tpda@sfn.org

Career Development Topics: A Networking Event
7:30–9:30 p.m.
Contact: profdev@sfn.org

SUNDAY, OCTOBER 20

Social Issues Roundtable ⁕
Human Fusions: Ethical and Social Issues Raised by Neural-Digital Interfaces
1–3 p.m.
Organizer: Tyler Dustin, PhD
Contact: baw@sfn.org

MONDAY, OCTOBER 21

NeuroJobs Career Center Workshop
Best Practices for Filling Your Open Position With the Perfect Candidate
10–10:30 a.m.
Contact: neurojobs@sfn.org

Animals in Research Panel
Treatments for Disorders of the Basal Ganglia and the Development of Deep Brain Stimulation: Translation of Non-Human Primate Research Into Clinical Therapeutics ⁕
1–3 p.m.
Organizer: Peter Strick, PhD
Contact: advocacy@sfn.org
Support contributed by: The National Primate Research Centers

Chapters Workshop
Fostering Chapter Engagement Through Your Local Brain Bee
6:45–8:45 p.m.
Organizer: Jennifer Yates, PhD
Contact: chapters@sfn.org

TUESDAY, OCTOBER 22

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

Public Advocacy Forum
The Role of Pharmaceutical Partnerships When Advocating for Basic Research ⁕
2–3:30 p.m.
Organizer: Moses Chao, PhD
Contact: advocacy@sfn.org

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

Graduate Student Reception
8:30–11:30 p.m.
Contact: meetings@sfn.org
Support contributed by: *eNeuro* and *JNeursosci*

PROFESSIONAL DEVELOPMENT WORKSHOPS

Professional Development Workshops Tracks*

- Career Paths
- Career Skills
- Responsible Conduct of Research
- Neuroscience Education

Contact: profdev@sfn.org
(unless noted otherwise)

SATURDAY, OCTOBER 19

Preparing for Your Career Away From the Bench: Essential Skills for Navigating Your Career Transition
9–11 a.m.
Organizer: Annette Gray, PhD

Reproducibility for Everyone
9–11 a.m.
Organizer: Aparna Shah, PhD

Integrating Research and Teaching at Primarily Undergraduate Institutions
Noon–2 p.m.
Organizer: Joyce Fernandes, PhD

Confronting Imposter Syndrome
Noon–2 p.m.
Organizers: Ericka Boone, PhD; Marguerite Matthews, PhD; Sadye Paez, PhD

Getting Creative with Course-Based Research Experiences to Generate Publishable Data
3–5 p.m.
Organizer: Jacqueline Rose, PhD

How to Thrive as a Woman in Neuroscience
3–5 p.m.
Organizer: Melissa Harrington, PhD

SUNDAY, OCTOBER 20

Bringing Genetic Diversity to Model Organism Research
9–11 a.m.
Organizer: Elissa Chesler, PhD

Navigating Team Science (50)
9–11 a.m.
Organizers: Lique Coolen, PhD; Chiara Manzini, PhD

Becoming a Resilient Scientist
Noon–2 p.m.
Organizer: Janet Clark, PhD

Science Management
Noon–2 p.m.
Organizer: Tanya Brown, PhD

Neuroscience Departments and Programs Workshop (50)
Hiring and Promoting Faculty in the Era of Team Science
2:30–5 p.m.
Organizer: Rosalind Segal, MD, PhD
Contact: training@sfn.org

Building a Neuroscience Career at a Teaching Focused Institution
3–5 p.m.
Organizer: Melissa Harrington, PhD

MONDAY, OCTOBER 21

Advancing Your Career Through Effective Science Writing for the Public and Creating Eye-Catching Research Statements
9–11 a.m.
Organizer: Eduardo Rosa-Molinar, PhD

The Art of Building a Career
9–11 a.m.
Organizer: Martha Davila-Garcia, PhD

Optimize Your Grant Application: News You Can Use From NIH
Noon–2 p.m.
Organizer: Bruce Reed, PhD

Teaching Computation in Neuroscience
Noon–2 p.m.
Organizers: William Grisham, PhD; Richard Olivo, PhD

* Professional Development Workshops are categorized by track to help attendees to quickly identify the workshops that are of the greatest interest to them.

SfN-SPONSORED SOCIALS

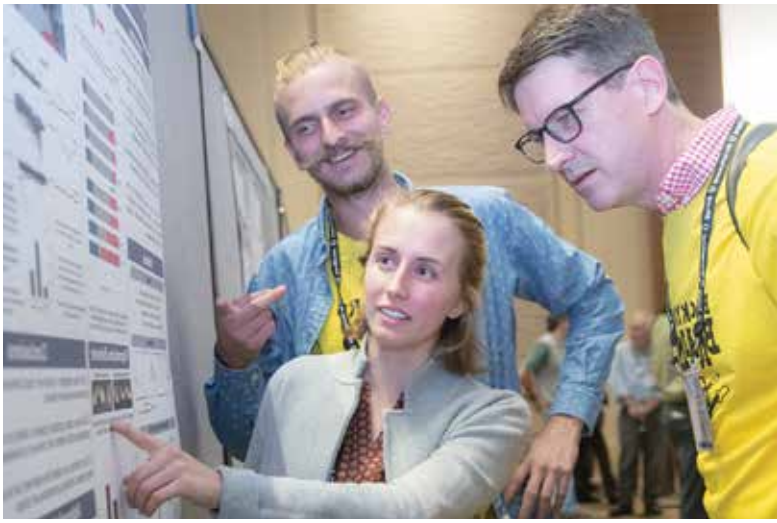
Sunday, Oct. 20 ▸ 6:45–8:45 p.m.
Brain and Retina Organoids Social
Breaking Barriers for Young Women in Science
Conversations on Cajal
Faculty for Undergraduate Neuroscience (FUN) Poster Session & Social
International Brain Bee Social
Neural Oscillations Social
Neuroethics Social
Neuroethology / Invertebrate Neurobiology Social
Neuroscience and Architecture: Measurement for Design
Open, FAIR, and Reproducible Neuroscience Social
Spinal Cord Injury Social
Monday, Oct. 21 ▸ 6:45–8:45 p.m.
Behavioral Neuroendocrinology Social
Cerebellum Social
Chemical Senses Social
Epilepsy Social
Ingestive Behavior Social
Marmoset Social
Music Social
Neuroscience and Writing
Open-Source Technology Social
Psychopharmacology Social
Tuesday, Oct. 22 ▸ 6:45–8:45 p.m.
Alzheimer's Disease and Related Dementias
Computational Neuroscience Social
Decision Neuroscience Social
Glia Social
Global Neuroscience Social
Hippocampus Social
Neuroendocrinology Social
Pain and Itch Social
Platforms for Team Science and Data Sharing: Unlocking Data to Drive Innovation in Translational Research
Synapses Social

SATELLITE EVENTS

Wednesday, Oct. 16	
52nd Annual Meeting of the International Society for Developmental Psychobiology (ISDP)	1–7:30 p.m.
American Society of Neurorehabilitation Annual Meeting	1–7 p.m.
BrightFocus Alzheimer's Fast Track	7 a.m.–5 p.m.
Thursday, Oct. 17	
52nd Annual Meeting of the International Society for Developmental Psychobiology (ISDP)	7:30 a.m.–7:30 p.m.
2019 International Neuroethics Society Annual Meeting	9 a.m.–4:30 p.m.
2019 International Neuroethics Society Public Program	5–7 p.m.
2019 Molecular and Cellular Cognition Society Poster Session	6:30–9:30 p.m.
American Society of Neurorehabilitation Annual Meeting	7 a.m.–8 p.m.
Barrels XXXII	8:30 a.m.–10 p.m.
BrightFocus Alzheimer's Fast Track	7 a.m.–5 p.m.
Computational Psychiatry Workshop	8 a.m.–5 p.m.
J.B. Johnston Club for Evolutionary Neuroscience	8 a.m.–7:30 p.m.
Friday, Oct. 18	
52nd Annual Meeting of the International Society for Developmental Psychobiology (ISDP)	7:30 a.m.–6:30 p.m.
2019 International Neuroethics Society Annual Meeting	9 a.m.–7 p.m.
2019 Molecular and Cellular Cognition Society Symposium	8 a.m.–5 p.m.
Advances in Motor Learning and Motor Control	12:30–7 p.m.
American Society of Neurorehabilitation Annual Meeting	7 a.m.–7 p.m.
Annual NIDA-NIAAA Frontiers in Addiction Research Mini-Convention	8:30 a.m.–5:30 p.m.
APAN-Advances and Perspectives in Auditory Neuroscience	8 a.m.–5:30 p.m.
Barrels XXXII	8:30 a.m.–5 p.m.
BrightFocus Alzheimer's Fast Track	7 a.m.–5 p.m.
Computational Psychiatry Workshop	8 a.m.–5 p.m.
Fourth International Symposium on Sigma-2 Receptors	9 a.m.–2 p.m.

SATELLITE EVENTS

Induction and Resolution of CNS Neurotoxicity	9 a.m.–5:30 p.m.
J.B. Johnston Club for Evolutionary Neuroscience	8 a.m.–9 p.m.
Neuroscience of Movement Disorders	7 a.m.–5 p.m.
New Perspectives on Cerebellar Function: Implications for Mental Health	8:30 a.m.–5 p.m.
Orofacial Functions: From Neural Mechanisms to Rehabilitation	8:30 a.m.–5 p.m.
Sleep-Dependent Memory Consolidation: Bridging Replay and Reactivation	1–7 p.m.
Using NEURON to Model Cells and Networks	9 a.m.–5 p.m.
Saturday, Oct. 19	
Chinese Neuroscientists Social	6:30–9 p.m.
Diving DEAP into Adolescent Brain and Cognitive Development (ABCD) Study Data	6:30–9:30 p.m.
Exploring Brain Cell Type Diversity with The Allen Brain Explorer and Allen Cell Types Database	8–10:30 a.m.
Exploring the Mouse Visual System: The Allen Brain Observatory	8–10:30 a.m.
Friends of Case Western Reserve University and Cleveland Clinic Social	6:30–8:30 p.m.
FTD Social	6:30–8:30 p.m.
g.tec's Brain-Computer Interface (BCI) Workshop	6:30–9:30 p.m.
Light-Sheet Fluorescence Microscopy: A Key Tool for 3D Imaging of Neuronal Samples	6:30–10 p.m.
NSG and HPAC–Large Scale Simulations and Data Processing	8:30–10:30 a.m.
Sunday, Oct. 20	
Arab Neuroscientists Social	6:30–8:30 p.m.
Boston University Graduate Program for Neuroscience Social	7–10 p.m.
Dutch Neuroscience Social 2019	7–10 p.m.
Ernst Strüngmann Forum Social	6:30–9:30 p.m.
Green and Open Neurosciences Symposium & Soiree	6:30–9:30 p.m.
Improving Human Participation in Invasive Research Studies	6:30–10 p.m.
International Behavioral Neuroscience Society (IBNS) Social	6:30–8:30 p.m.
NIH Funding and You: A Practical Guide for a Trainee to Survive and Thrive in Your Research Career	6:30–8:30 p.m.



Spectrum Social Event	6:30–8 p.m.
The Logothetis Lab Alumni, Colleagues and Friends Social	6:30–10 p.m.
University of Chicago Neuroscience 16th Annual Social	6:30–9 p.m.
Monday, Oct. 21	
16th Annual Christopher Reeve "Hot Topics" in Stem Cell Biology	6:30–9:30 p.m.
2019 Taiwan Night	6:30–9:30 p.m.
Association of Korean Neuroscientists: Annual Meeting and Social	6:30–9:30 p.m.
Grass Foundation and Marine Biological Laboratory Co-Hosted Social	6:30–8 p.m.
IRNSC Annual Social Event	8–10 p.m.
Neurorehabilitation Social	6:30–8:30 p.m.
Neuroscience, Religion & Cultural Authority	7–8:30 p.m.
Parkinson's Disease Social	6:30–8 p.m.
Simons Foundation Autism Research Initiative (SFARI) Social	6:30–8:30 p.m.
Sleep and Circadian Biology DataBlitz	8–10 p.m.
The 9th Annual International Society for Serotonin Research Mixer	6:30–8 p.m.
Tuesday, Oct. 22	
2019 Friends of Iowa Neuroscience	6:30–9:30 p.m.
The Science Bridge and Middle Eastern Neuroscientists Social	6:30–8 p.m.
Wearable Sensing Solutions for Integrated Dry Electrode EEG/EXG, Motion Capture, and Eye Tracking	6:30–9 p.m.

REGISTRATION

Bonus Day	Opens at noon EDT on July 9 for members who renewed their membership by Jan. 31, 2019
Advance	Opens at noon EDT on July 10 for all members; noon EDT on July 16 for nonmembers
Online Discount	Opens at midnight EDT on October 3 and continues through the annual meeting
On-Site In Line	Opens at 7:30 a.m. CDT October 19 and continues through the annual meeting

Registration Category	Advance	Online Discount	On-Site In Line
Member	$420	$485	$580
Member, Category II	$175	$205	$245
Member, Category III	$245	$275	$320
Postdoctoral Member	$315	$360	$435
Postdoctoral Member, Category II	$110	$130	$150
Postdoctoral Member, Category III	$175	$200	$240
Student Member	$210	$240	$290
Student Member, Category II	$75	$85	$105
Student Member, Category III	$115	$135	$165
Student Member, Undergraduate	$105	$120	$145
Student Member, Undergraduate Category II	$40	$45	$55
Student Member, Undergraduate Category III	$60	$70	$85
Nonmember	$755	$870	$1,045
Student Nonmember	$380	$435	$520
Guest — Non-Scientific	$65	$70	$80
CME Accreditation	$105	$120	$140

Accepted Forms of Payment:
MasterCard, Visa, American Express, Discover, checks or money orders in U.S. dollars drawn on a U.S. bank made payable to the Society for Neuroscience, and cash (on-site only).
Note: Single day registration is not available.

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/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 pay for the registration.

For the advance registration fee to apply, payment must be received by the advance registration deadline: Wednesday, October 2, 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 will not 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

REGISTRATION

Printed Programs
All Neuroscience 2019 program information will be accessible free of charge via the Neuroscience 2019 mobile app, Neuroscience Meeting Planner (NMP), and on www.sfn.org. Printed copies of the General Information book and *Exhibit Guide* will be available at no cost.

Note: No refunds will be issued for program purchases after Wednesday, October 2.

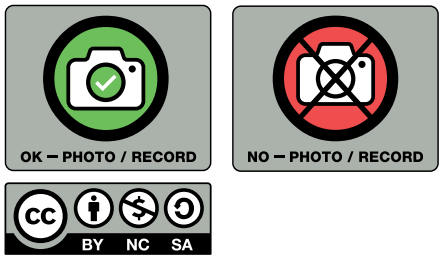
Code of Conduct
If attendees experience unwelcome or unsafe situations anywhere in the city, attendees should swiftly contact local authorities (dial 9-1-1). Additional local social services resources are listed in one convenient location at the federal website www.changingourcampus.org.

Any official report of a violation of the code of conduct should be brought to the designated Human Resources Officer in the SfN headquarters office in the 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: www.sfn.org/codeofconduct.

Printed Program Fees	Advance	After Oct. 2
Full Program Set, Member	$40	$45
Full Program Set, Nonmember	$50	$55

PHOTOGRAPHY & RECORDING POLICY



SfN is committed to honoring the rights of copyright owners and to respectful sharing of scientific research and data.

For more information on the new policy and the use of the icons to the left, please go to www.sfn.org/photopolicy.

TRAVEL RESOURCES

Airports

Chicago O'Hare International Airport (ORD)
flychicago.com/ohare
(773) 686-2200

Approximate 40-minute drive (17 miles) to downtown Chicago and McCormick Place

Midway International Airport (MDW)
flychicago.com/midway
(773) 838-0600

Approximate 20-minute drive (11 miles) to downtown Chicago and McCormick Place

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 www.SfN.org/visainfo.

Hotel Information

Housing for advance registered members who renewed by Jan. 31, 2019, opens at noon EDT on July 9; for all other members at noon EDT on July 10; and for advance nonmembers at noon EDT on July 16. Housing is open through September 20.

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

- Marriott Marquis Chicago and Hyatt Regency McCormick Place are the official co-headquarters hotels.

Reservation Policies and Procedures

- To make a hotel reservation through SfN Housing, you must be registered for Neuroscience 2019. Only one hotel room may be reserved per paid registrant until August 19.

- 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 26 for students and member category I, II, and III registrants.

- Housing for exhibitors opens July 23. For exhibitor hotel reservation information, visit www.SfN.org/exhibits.

- You may change or cancel hotel reservations until 9 p.m. EDT on September 20.

- Avoid housing and registration scams. Convention Management Resources (CMR) is the official housing company. Convention Data Services (CDS) is the official registration company. Visit www.sfn.org/avoidscams for more information.

Contact Information

SfNsupport@cmrus.com
(866) 999-3093 (U.S. and Canada)
+1 (415) 268-2091 (International)
9 a.m.–9 p.m. EDT

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 2019. For additional information, visit www.SfN.org/attendeeresources. If you have a disability or a special need that may affect your participation in the annual meeting, or if you have questions regarding attendee resources, contact meetings@sfn.org.

NAVIGATING CHICAGO

Complimentary SfN Shuttle Service
With shuttle bus service operating every 10 minutes during peak time and 20 minutes during off-peak time, you can conveniently travel between your official SfN meeting hotel and the convention center. For Neuroscience 2019, SfN offers a fleet of shuttle buses dedicated to your travel. With the exception of hotels within walking distance of McCormick Place, shuttle service will be available to all SfN contracted hotels. In addition, because of Chicago's commitment to successful large meetings, some shuttles operate on a dedicated travel-free "busway" from downtown to McCormick Place.

Public Transportation
Chicago offers two options for public transportation: Metra (the commuter train system) and CTA (the "L" light rail system). Metra, with stops within walking distance to many of the SfN-contracted hotel rooms, has a stop inside McCormick Place. SfN has contracted with Metra to provide additional train service for Neuroscience 2019. Free Metra passes will be available to all attendees. If you opt to take the L, also convenient to many Neuroscience 2019 hotels, the Cermak - McCormick Place station (Green line) is the closest CTA stop to McCormick Place. SfN will provide a complimentary shuttle service between the Roosevelt station (Red, Green, and Orange lines) and McCormick Place.

Taxis
With more than 6,500 vehicles, Chicago has the second largest taxi fleet in the country. Discounted shared rides are available between McCormick Place and downtown. In addition, a taxi dispatch center is located within McCormick Place to ensure cabs are readily available to meet demand.

SCIENCE KNOWS NO BORDERS

Science Knows No Borders

In keeping with the Society's commitment to facilitate global collaboration in science, SfN has established the Science Knows No Borders (SKNB) program. The program will allow scientists denied U.S. travel visas to present their research and engage with colleagues at Neuroscience 2019 through poster and nanosymposia sessions.

Learn more at www.SfN.org/SKNB.

ANNUAL MEETING CONTRIBUTORS

SfN gratefully recognizes the generous contributions from the following annual meeting program contributors:

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Cover Image: This image is an artistic rendering of the mouse hippocampus, stained with antibodies against α-synuclein (yellow) and the sphingolipid glucosylceramide (blue).α-Synuclein interacts with select sphingolipids in the context of GBA-associated Parkinson's disease.Yumiko V. Taguchi, Jun Liu, Jiapeng Ruan, Joshua Pacheco, Xiaokui Zhang, Justin Abbasi, Joan Keutzer, Pramod K. Mistry and Sreeganga S. Chandra. *Journal of Neuroscience* 4 October 2017, 37 (40) 9617-9631.

Page 13: This image shows the mouse adult hippocampus with neurogenesis markers. EYFP (green) is expressed in radial glia-like neural stem cells and their progenies. Adult-born neurons and neural stem cells/neural progenitors are stained with Doublecortin (red) and Sox2 (white), respectively. DAPI labeling is blue. H. Georg Kuhn, Tomohisa Toda and Fred H. Gage. *Journal of Neuroscience* 5 December 2018, 38 (49) 10401-10410.

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KEY DATES	
July 9	Bonus Day Registration *For members who activated their 2019 membership by January 31*
July 10	Advance Member Registration Opens
July 16	Advance Nonmember Registration Opens
Oct. 19	Neuroscience 2019 Opens in Chicago

Visit www.SfN.org/prelim19 for details and updates.

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