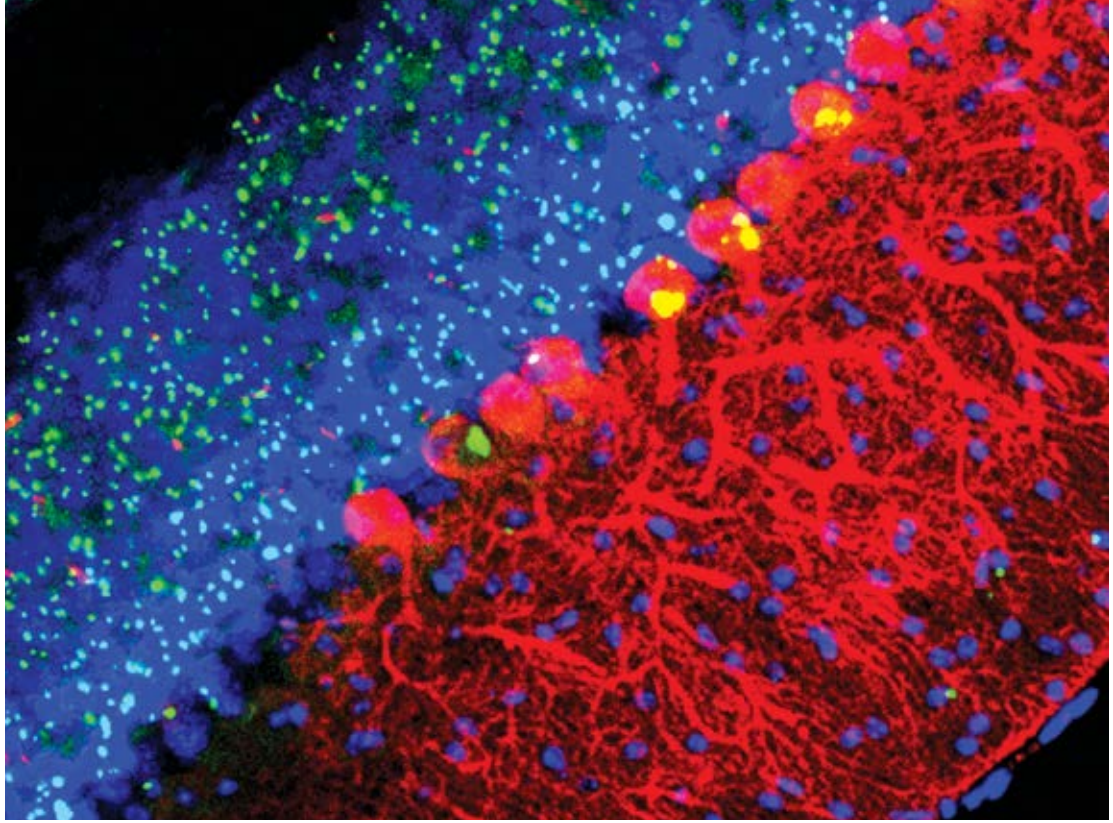
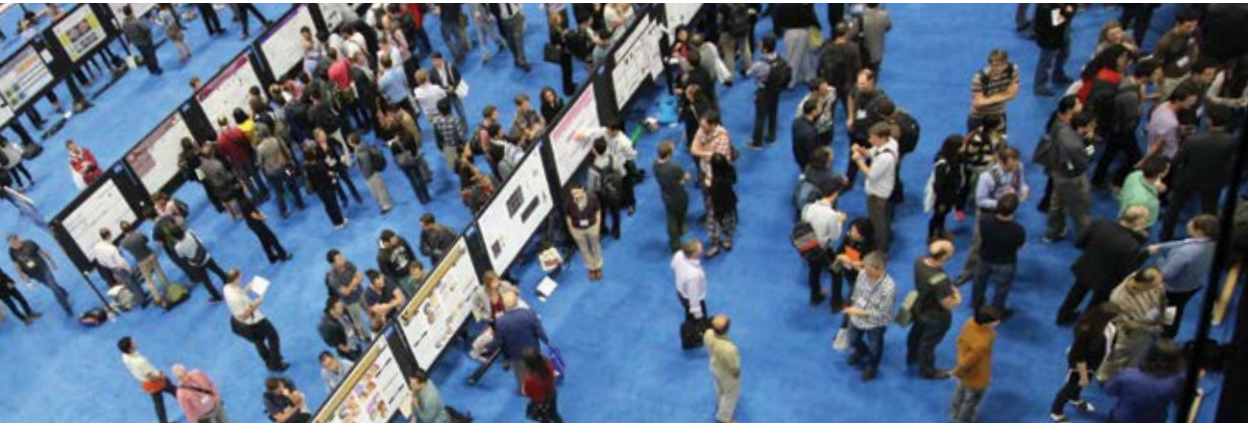




NEUROSCIENCE
2014

WASHINGTON, DC
November 15–19

Preliminary Program

SOCIETY *for* NEUROSCIENCE

NEUROSCIENCE 2014

Meet your peers and discover great science — see you in DC for Neuroscience 2014!

Neuroscience 2014 is the premier event in the field — the science and networking opportunities are unmatched with more than 15,000 scientific presentations, nearly 600 exhibiting companies, dozens of career development opportunities, and an array of neuroscience-related social activities.

Having all of this opportunity at one meeting saves you time and money — plus rates are even lower for members, students, attendees from developing countries, and for those who register in advance.

Attendees can enjoy Washington, DC's many attractions, convenient transportation, vibrant nightlife, and world-class as well as budget-friendly dining options.

Experience the latest scientific research and innovations, build and strengthen professional relationships, access funding, learn about advocacy, find state-of-the art tools and technologies, and enjoy and explore Washington, DC.

Presidential Special Lectures

The Living Record of Memory: Genes, Neurons, and Synapses CME

Kelsey C. Martin, MD, PhD
University of California, Los Angeles

Saturday, Nov. 15, 5:15–6:25 p.m.

Memory requires stimulus-induced changes in gene expression, which in turn alters synaptic connectivity and wiring in the brain. In this way, experience combines with our genome to determine who we are as individuals. This talk describes efforts to understand how experience regulates gene expression within neurons. How are stimulus-induced signals transported from distal synapses to the nucleus to alter gene expression, and how is gene expression spatially restricted to specific subcellular compartments?

The Integration of Interneurons Into Cortical Circuits: Both Nurture and Nature CME

Gordon J. Fishell, PhD
New York University
Neuroscience Institute

Sunday, Nov. 16, 5:15–6:25 p.m.

Since the seminal finding that cortical GABAergic interneurons originate within the subpallium, extraordinary mechanisms must exist to ensure they are precisely and reliably embedded into cortical circuitry. Considerable efforts indicate that genetic programs initiated within progenitors assign interneurons into specific cardinal classes. It is less clear whether their synaptic specificity also is intrinsically determined. Fishell will discuss recent evidence concerning how intrinsic genetic programs within interneurons are shaped by local activity-dependent cues. These results suggest that sensory information complements earlier established genetic programs to shape the way interneuronal subtypes integrate into nascent cortical circuits.

The First Steps in Vision: Computation and Repair CME

Botond Roska, MD, PhD
Friedrich Miescher Institute for Biomedical Research, University of Basel

Monday, Nov. 17, 5:15–6:25 p.m.

At the front end of the visual system, a sophisticated image processor, the retina, creates about a dozen movies about the visual scene and presents them to higher visual brain areas. How do the thalamus and the cortex interpret these movies and how does the retina create them? Furthermore, how can we use our understanding of neuronal computations at the front end of the visual system to design repair strategies for blinding diseases? Roska will present a "cell type"-based approach to address these questions.

Stem Cells in the Brain: Glial Identity and Niches CME

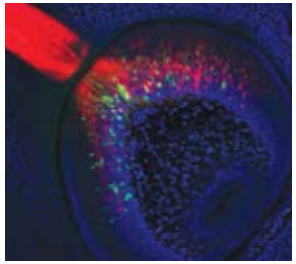
Fiona Doetsch, PhD
Columbia University

Tuesday, Nov. 18, 5:15–6:25 p.m.

Glia play key roles in brain development, homeostasis, plasticity, and injury. Specialized glia are stem cells both during development and in adults, and continuously generate new neurons in restricted brain regions throughout life. Doetsch will review the current understanding of the nature of specialized glia cells in the brain and the unique features of the niche in which they reside. Illuminating the biology of endogenous neural stem cells has important implications for brain repair.

CME These activities have been approved for *AMA PRA Category 1 Credit.*™ For details, see page 5 and visit SfN.org/cme.

Join more than 30,000 scientists from more than 80 countries to foster scientific discoveries and form new collaborations.



Featured Lectures

DAVID KOPF LECTURE ON NEUROETHICS

Mind, Brain, and the Ethics of Intergroup Behavior

Mahzarin Banaji, PhD
Harvard University

Support contributed by: David Kopf Instruments

Sunday, Nov. 16, 11:30 a.m.–12:40 p.m.

From the moment of birth, every human is a member of many groups. Group memberships create affiliations of "us" and "them" and sensitivity to status in social hierarchies. Human minds reflect these in myriad attitudes and beliefs that contain deep knowledge about the hidden presence or surprising absence of group love. Unveiling them by observing brain activity and behavior allows understanding of the natural and cultivated ways in which the meanings of in-group and out-group (self and other) are represented and group love is elusively tuned up and down.

PETER AND PATRICIA GRUBER LECTURE

Circuits and Strategies for Skilled Motor Behavior

Thomas M. Jessell, PhD
Columbia University, Howard Hughes Medical Institute

Support contributed by: The Gruber Foundation

Sunday, Nov. 16, 2:30–3:40 p.m.

The capacity to generate movement on demand is a reflection of neural computations that integrate internal command and external feedback for the purpose of patterned motor output. Advances in deciphering the logic of motor systems have not yet resolved the strategies and mechanisms through which neural circuits direct motor behavior. This lecture will probe this issue through an analysis of motor circuits in the mammalian spinal cord, focusing on the functions of interneurons assigned to two feedback circuits, one that evaluates the fidelity of intended motor acts and a second that filters external sensory reports.

ALBERT AND ELLEN GRASS LECTURE

Cellular and Molecular Mechanisms of Explicit Learning in the Hippocampus CME

Roger A. Nicoll, MD
University of California, San Francisco

Support contributed by: The Grass Foundation

Monday, Nov. 17, 3:15–4:25 p.m.

Long-term potentiation (LTP) has remained the most compelling cellular model for learning and memory since its discovery nearly 50 years ago by Bliss and Lomo. The thousands of papers published on LTP can be overwhelming to sift through for experts and novices alike. In this lecture, Nicoll will probe the core properties of LTP, arguing that the dozens of proteins linked to the phenomenon are not essential, but rather modulate the threshold and/or magnitude of LTP.

HISTORY OF NEUROSCIENCE LECTURE

The Messengers of the Mind

Floyd E. Bloom, MD
The Scripps Research Institute

Tuesday, Nov. 18, 2:30–3:40 p.m.

At the cellular and molecular levels of operation, neurons and their circuits achieve brain functions by chemical signals, in which the principle agents, neurotransmitters, convey the signal from the sending neuron to the receiving neuron. The discovery of each of the chemical families of neurotransmitters (amino acids, amines, and neuropeptides) provides important insight on understanding how brains function, changing our concepts of the complexities of short-term and long-term brain events, and how medications can intervene in brain dysfunctions.

Find the latest session information at **SfN.org/featuredlectures.**

Special Lectures

THEME A: Development

Building a Synapse Through Nuclear Export of Large RNA Granules and Exosomes CME

Vivian Budnik, PhD
University of Massachusetts Medical School

Studies in *Drosophila* are uncovering novel conserved mechanisms for synapse development and plasticity. These include signaling pathways from the membrane to the nucleus, promoting the nuclear assembly and export of ribonucleoprotein granules and their synaptic localization. In addition, pre- and postsynaptic compartments are shaped through transsynaptic transmission of exosomes carrying transmembrane proteins and RNA. This lecture shares lessons from the study of viruses and Wnt signaling that led to these discoveries and highlights their importance in disease.

THEME B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Exocytosis of Synaptic Vesicles — A Molecular Perspective CME

Reinhard Jahn, PhD
Max Planck Institute for Biophysical Chemistry

Neurotransmitter release from neurons is mediated by Ca^{2+}-dependent exocytosis of synaptic vesicles. The molecular machinery involves SNARE proteins that carry out membrane fusion together with other conserved proteins such as SM and CATCHR. Furthermore, specialized proteins such as synaptotagmins and complexins convey Ca^{2+} regulation. Jahn will discuss new insight on the mechanisms by which these proteins mediate membrane fusion at the synapse.

How Do You Feel? The Role of Mechanically Activated Ion Channels in Touch, Pain, Hearing, and Beyond CME

Ardem Patapoutian, PhD
The Scripps Research Institute, Howard Hughes Medical Institute

Mechanosensation is perhaps the last sensory modality not understood at the molecular level. Ion channels that sense mechanical force are postulated to play critical roles in sensing touch/pain (somatosensation), sound (hearing), sheer stress (cardiovascular tone), etc. However, the identity of ion channels involved in sensing mechanical force has remained elusive. This lecture focuses on the identification, using functional genomics approaches, and characterization of novel mechanically activated channels including Piezo1 and 2.

THEME C: Disorders of the Nervous System

Genes and Environment Interaction During Development: Redox Imbalance in Schizophrenia CME

Kim Quang Do, PhD
Center for Psychiatric Neuroscience, Lausanne University Hospital

Understanding how the interaction of genes and environmental risk factors during neurodevelopment leads to cognitive, affective, and social impairment is a central challenge in psychiatric neuroscience. This lecture discusses the case of schizophrenia where these risk factors converge on a hub made of NMDAR hypofunction, neuroinflammation and redox imbalance/oxidative stress, affecting parvalbumine neurons and myelination that leads to structural and functional dysconnectivity. A translational approach toward prevention attempts to modify the disease course by redox modulators.

The Glymphatic System and Its Possible Roles in CNS Diseases CME

Maiken Nedergaard, MD, DMSc
University of Rochester

Past work has focused on cellular recycling of proteins involved in neurodegeneration. This lecture expands the traditional framework to include a macroscopic clearance system — the glymphatic system — by which the brain exports waste products of neural metabolism. Glymphatic clearance is driven by convective CSF influx and is especially active during sleep. Macromolecules, such as amyloid beta, are literally swept out of CNS for ultimate degradation in the liver. As such, the glymphatic system represents a novel and unexplored target for treatment of neurological diseases.

Persistent Cocaine-Induced Plasticity and Synaptic Targets for Its Reversal CME

Marina E. Wolf, PhD
Rosalind Franklin University of Medicine and Science

Cocaine addicts remain vulnerable to cue-induced craving and relapse even after long periods of abstinence. In a rat model of this phenomenon, cue-induced cocaine craving increases during withdrawal and remains high for months. This relies on strengthening of glutamate synapses in the nucleus accumbens, a brain region that translates motivation into action. This lecture will focus on mechanisms that maintain this plasticity, as well as strategies for reversing it and thus reducing craving. Potential targets include group I metabotropic glutamate receptors and protein translation.

THEME D: Sensory and Motor Systems

Learning and Relearning Movement CME

Amy J. Bastian, PhD
Kennedy Krieger Institute, Johns Hopkins University School of Medicine

Human motor learning depends on a suite of brain mechanisms that are driven by different signals and operate on timescales ranging from minutes to years. Understanding these processes requires identifying how new movement patterns are normally acquired, retained, and generalized, as well as the effects of distinct brain lesions. The lecture focuses on normal and abnormal motor learning and how we can use this information to improve rehabilitation for individuals with neurological damage.

The Sensory Neurons of Touch CME

David D. Ginty, PhD
Harvard Medical School, Howard Hughes Medical Institute

The somatosensory system endows us with enormous capacity for object recognition, texture discrimination, sensory-motor feedback, and social exchange. Innocuous touch of the skin is detected by physiologically distinct low-threshold mechanosensory neurons (LTMRs). Ginty's research team has amassed a genetic toolbox that enables interrogation of the physiology, morphology, and function of LTMR subtypes and their synaptic target neurons in the spinal cord. Ginty will discuss morphological and physiological features of LTMRs and the organizational logic of LTMR projections and circuits in the central nervous system.

CME This activity has been approved for *AMA PRA Category 1 Credit.*™ For details, see page 5 and visit SfN.org/cme.

The Brain Is Needed to Cure Spinal Cord Injury CME

Tadashi Isa, MD, PhD
National Institute for Physiological Sciences

Recovery after neuronal damage is learned by the spared neural systems. Isa's research team is studying the mechanism of recovery of hand dexterity after partial spinal cord injury using nonhuman primate models by combining multidisciplinary approaches such as kinetic analysis, electrophysiology, brain imaging, neuroanatomy, and genetic manipulation with viral vectors. Isa will talk about the large-scale circuit reorganization that occurs through training and is critical for recovery, spanning over the spinal cord, motor cortices, and even the limbic structures.

THEME E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Surprising Origins of Sex Differences in the Brain CME

Margaret M. McCarthy, PhD
University of Maryland School of Medicine

Brain sex differences are established early by genes, hormones, environment, and experience. Animal models reveal multiple endpoints modified by steroid hormones in a region-specific manner and that these changes underlie sex differences in adult behavior. This talk reviews the cellular and molecular mechanisms mediating masculinization involving inflammatory molecules, immune signaling, endocannabinoids, and epigenetic changes. Illuminating the biological origins of brain and behavior sex differences is essential for enhancing health and preventing disease.

What Drives Sleep — Wake Cycles: Identification of Molecules and Circuits in *Drosophila* CME

Amita Sehgal, PhD
Perelman School of Medicine at the University of Pennsylvania, Howard Hughes Medical Institute

This lecture will focus on the cellular and molecular mechanisms that regulate sleep. The 24-hour rhythm of sleep is driven by a circadian clock, while the need to sleep comes from a homeostatic system, which ensures adequate sleep levels. The lecture will show how the use of *Drosophila* has led to the identification of mechanisms that generate a circadian clock and to some of the downstream circuitry required for circadian timing of behavior. It will also highlight recent developments in identifying molecular components and cellular circuits that underlie homeostatic regulation.

THEME F: Cognition and Behavior

Affective Neuroscience of Reward: Limbic Modules for Liking and Wanting CME

Kent C. Berridge, PhD
University of Michigan, Ann Arbor

Reward involves several different psychological components. "Wanting" a reward is generated by robust mesolimbic circuitry, whereas "liking" the same reward is generated by hedonic-hotspot circuitry that is neuroanatomically and neurochemically more restricted. This wanting-liking difference has implications for addiction disorders. Yet surprisingly, forms of positive wanting and negative fear share some of the same brain mechanisms. New insight on the generation of these intense "liking," "wanting," and other emotion states are emerging in affective neuroscience.

Generating and Shaping Novel Action Repertoires CME

Rui M. Costa, DVM, PhD
Champalimaud Foundation

Many actions are learned anew throughout life, likely through a process of trial and selection. Researchers investigated how novel self-paced actions are generated and how actions that lead to particular outcomes are then selected. Research found that dopamine is critical for the initiation of novel actions and that plasticity in cortico-basal ganglia circuits is essential for action selection. With iteration, actions become organized in modules, and neural substrates of chunking emerge in these circuits.

THEME G: Novel Methods and Technology Development

Nanoscopy With Focused Light: Principles and Applications CME

Stefan W. Hell, PhD
Max Planck Institute for Biophysical Chemistry

For most of the 20th century, scientists believed that lens-based light microscopy could not discern details finer than half the wavelength of light (>200 nm). In the 1990s, this barrier was overcome when it was discovered that fluorescent features can be resolved virtually down to molecular dimensions. This lecture discusses the simple, yet powerful, physical principles that allowed researchers to overcome the diffraction limit, with special emphasis on STED and RESOLFT microscopy. The lecturer will exemplify the relevance of these nanoscopy techniques to neuroscience.

Find the latest session information at **SfN.org/speciallectures.**

Continuing Medical Education (CME)

Physicians: Improve Competencies While Earning CME Credit

The Society for Neuroscience annual meeting is a forum for educating physicians in neuroscience. By attending lectures, symposia, and minisymposia, the physician will receive both a broad overview of the field and information about the most recent, detailed research on specific topics. Abstracts for each plenary session contain brief descriptions of the material to be presented. Participation in these activities reinforces foundational concepts clinicians need as a part of their practice.

Statement of Need

It is important that physicians comprehend the basic science that underlies clinical medicine. SfN's annual meeting is the premier venue for this educational opportunity. Physicians learn about the most up-to-date, cutting-edge discoveries of the brain and nervous system.

Global Learning Objective

Physicians will integrate the most up-to-date information and research on the mechanism, treatment, and diagnosis of conditions related to neurological and psychiatric 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. CME registrants will receive via email two weeks before the meeting the CME Supplemental Program, which contains important information regarding the CME program, including disclosure information and instructions for obtaining CME credits.

SfN.org/cme

Symposia

THEME A: Development

Advances in Studying Human Cortical Development CME
Chair: Arnold Kriegstein, MD, PhD

Cellular and Molecular Mechanisms of Neural Regeneration CME
Chair: Zhigang He, PhD
Co-Chair: Jeffrey Goldberg, MD, PhD

Evolution of Neural Circuits: From Axon Guidance Genes to Spoken Language CME
Chair: Alain Chedotal, PhD

Oligodendrocyte and Myelin Plasticity and Its Impact on the Function of Neural Circuits and Behavior CME
Chair: Gabriel Corfas, PhD

THEME B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Aerobic Glycolysis in the Brain: Emerging Roles of Lactate in Synaptic Plasticity and Axonal Function CME
Chair: Pierre J. Magistretti, MD, PhD

More Than a Pore: Ion Channel Signaling Complexes CME
Chair: Amy Lee, PhD

THEME C: Disorders of the Nervous System

C9orf72: A Repeat Disease That Underlies Dementia and Neurodegeneration CME
Chair: Jeffrey D. Rothstein, MD, PhD
Co-Chair: Laura P.W. Ranum, PhD

Nature, Nurture, and Trajectories to Mental Health CME
Chair: Takao K. Hensch, PhD

Gut Microbes and the Brain: Paradigm Shift in Neuroscience CME
Chair: Emeran A. Mayer, MD
Co-Chair: Rob Knight, PhD

Infiltration of Innate Immune Cells into the Injured, Infected, or Inflamed Brain CME
Chair: Charles L. Howe, PhD

Repairing and Piloting Neuronal Networks to Control Epilepsy CME
Chair: Christophe Bernard, PhD
Co-Chair: Ivan Soltesz, PhD

Target Validation in Huntington's Disease: Advances through the Development and Use of Animal Models CME
Chair: M. Flint Beal, MD
Co-Chair: X. William Yang, MD, PhD

The Latest on the Ubiquitin Pathway and CNS Disease CME
Chair: Tauseef R. Butt, PhD

THEME D: Sensory and Motor Systems

Auditory Cortical Processing in Real-World Listening CME
Chair: Israel Nelken, PhD
Co-Chair: Jennifer Bizley, PhD

Implicit Processes in Action Control CME
Chair: Patrick Haggard, PhD
Co-Chair: Hiroaki Gomi, PhD

OdorSpace: Deciphering Stimulus Space in Olfaction CME
Chair: Noam Sobel, PhD

EMPIRICAL APPROACHES TO NEUROSCIENCE AND SOCIETY SYMPOSIUM

Improving Animal Models of Neuropsychiatric Disorders CME

Chair: Trevor Robbins, PhD

Saturday, Nov. 15, 1:30–4 p.m.

The relative lack of success of big pharma in producing new drugs for psychiatric disorders has focused attention in part on improving animal models. This symposium focuses on recent examples of innovative molecular, genetic, and behavioral approaches to animal models of schizophrenia and depression. The symposium also will provide an industrial perspective and suggest new ways of advancing collaboration and development of this field to achieve more effective translation to the clinic.

Peripheral Gating of Pain Signals by Endogenous Lipid Mediators CME
Chair: Daniele Piomelli, PhD
Co-Chair: Andrea Hohmann, PhD

The Effects of Hearing Loss on Neural Processing, Plasticity, and Aging CME
Chair: Arthur Wingfield, PhD
Co-Chair: Jonathan Peelle, PhD

THEME E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Exercise, Energy Intake, and the Brain CME
Chair: Mark P. Mattson, PhD
Co-Chair: Henriette van Praag, PhD

Neural and Immune Mechanisms Regulating Resilience to Stress CME
Chair: Seema Bhatnagar, PhD
Co-Chair: Scott Russo, PhD

THEME F: Cognition and Behavior

Attention, Reward, and Information Seeking CME
Chair: Jacqueline Gottlieb, PhD
Co-Chair: Antonio Rangel, PhD

Neuroscience of Implicit Cognition and Learning: Current Theories and Methods CME
Chair: Richard Ivry, PhD
Co-Chair: Dezso Nemeth, PhD

Studying Human Cognition with Intracranial EEG and Electrical Brain Stimulation CME
Chair: Josef Parvizi, MD, PhD
Co-Chair: Robert T. Knight, MD

Toward Naturalistic Interactive Neuroimaging CME
Chair: Talma Hendler, MD, PhD
Co-Chair: Gadi Gilam

THEME G: Novel Methods and Technology Development

Enhancing Reproducibility of Neuroscience Studies CME
Chair: Story Landis, PhD
Co-Chair: Thomas Insel, MD

Find the latest session information at **SfN.org/symposia.**

Minisymposia

THEME A: Development

Novel RNA Modifications in the Nervous System: Form and Function CME

Chair: John Satterlee, PhD
Co-Chair: Jonathan Pollock, PhD

THEME B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Activity-Dependent Regulation of Synapse Organization and Function by Palmitoylation CME

Chair: Elva Diaz, PhD
Co-Chair: Shernaz Bamji, PhD

Mitochondria in the Development and Plasticity of Neurons CME

Chair: Zheng Li, PhD

Network-Mediated Encoding of Circadian Time: The Suprachiasmatic Nucleus (SCN) From Genes to Neurons to Circuits and Back CME

Chair: Marco Brancaccio, PhD

THEME C: Disorders of the Nervous System

Bath Salts, Spice, and Related Designer Drugs: The Science Behind the Headlines CME

Chair: Michael H. Baumann, PhD
Co-Chair: Jenny L. Wiley, PhD

Emerging Roles of Extracellular Vesicles in the Nervous System CME

Chair: Xandra O. Breakefield, PhD
Co-Chair: Lawrence Rajendran, PhD

Endocannabinoids and Related Mediators in Brain Function CME

Chair: Miriam Melis, PhD
Co-Chair: Vincenzo Di Marzo, PhD

Human Subcortical Connectivity with High-Field MRI CME

Chair: Salvatore J. Torrisi, PhD
Co-Chair: Monique Ernst, MD, PhD

Lipidomics and Lipid Signaling in Neurodegeneration CME

Chair: Kimberly B. Kegel-Gleason, PhD

The Role of Mitochondrial Dynamics and Brain Metabolism in Health and Disease CME

Chair: Eugenia Trushina, PhD

Trafficking Dysfunction in Neurodegenerative Diseases CME

Chair: Gopal Thinakaran, PhD
Co-Chair: Huaxi Xu, PhD

THEME D: Sensory and Motor Systems

From Objects to Actions: Dynamics in Parietal and Frontal Cortex CME

Chair: Patrizia Fattori, PhD
Co-Chair: Hans Scherberger, MD

New Roles for the External Globus Pallidus in Basal Ganglia Circuits and Behavior CME

Chair: Aryn Gittis, PhD

Pro-Nociceptive Interactions Between Spinal and Supraspinal Centers in Chronic Pain: Mechanisms and Avenues for Novel Drug Targets CME

Chair: Shafaq Sikandar, PhD

The Neural Basis of Affective Touch CME

Chair: India Morrison, PhD
Co-Chair: Hakan William Olausson, MD, PhD

The Role of Parvalbumin Neurons in Visual Processing and Plasticity CME

Chair: Aaron W. McGee, PhD
Co-Chair: Sandra Kuhlman, PhD

THEME E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Hypothalamic Control of Autonomic Nervous System Outflow and Obesity: Impact on Multiple Systems CME

Chair: Colleen M. Novak, PhD
Co-Chair: Haifei Shi, PhD

Is There a Neurobiological Basis for Food Addiction? CME

Chair: Ivan E. De Araujo, PhD
Co-Chair: Ralph DiLeone, PhD

THEME F: Cognition and Behavior

Advances in Understanding Mechanisms of Cortico-Thalamic Interactions in Cognition and Behavior CME

Chair: Yogita Chudasama, PhD
Co-Chair: Anna S. Mitchell, PhD

Characterizing the Roles of Fronto-Cingulo-Subcoritcal Circuits in Pain, Emotion, and Cognition CME

Chair: David Seminowicz, PhD

Imaging and Segmentation of Hippocampal Subfields in Humans: Relevance to Cognition and Disease CME

Chair: Geoffrey A. Kerchner, MD, PhD
Co-Chair: Paul Yushkevich, PhD

Multimodal Investigation of Large-Scale Brain Dynamics: Combining fMRI and Intracranial EEG CME

Chair: Biyu He, PhD
Co-Chair: Karim Jerbi, PhD

Noradrenergic Function and Dysfunction: New Insight From Selective Genetic Targeting of Locus Coeruleus CME

Chair: Elena M. Vazey, PhD

Understanding Mechanisms and Functions of Cortical Rhythms by Selective Interventions CME

Chair: Cyriel M.A. Pennartz, PhD

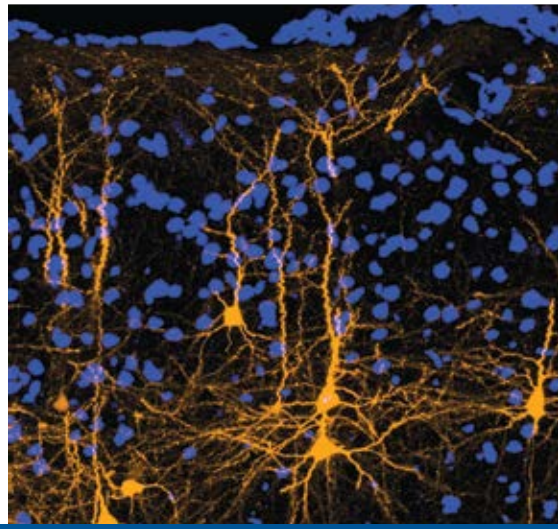
THEME G: Novel Methods and Technology Development

In vivo Reprogramming for Brain Repair CME

Chair: Gong Chen, PhD
Co-Chair: Chun-Li Zhang, PhD

Transgenic Primate Models of Human Brain CME

Chair: John H. Reynolds, PhD
Co-Chair: Partha P. Mitra, PhD



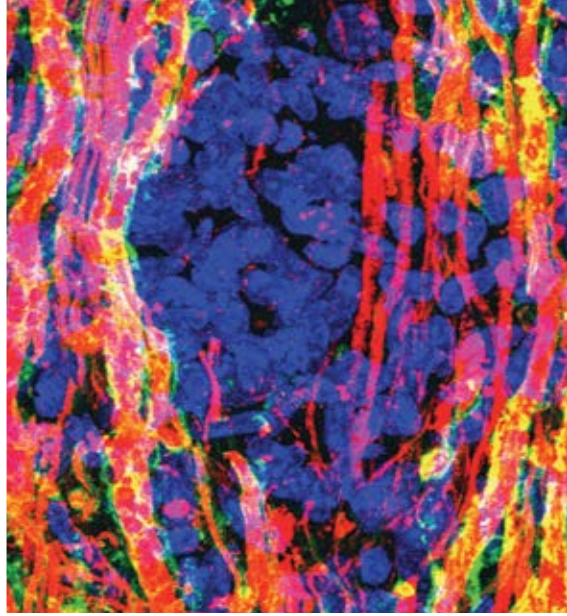
CME These activities have been approved for *AMA PRA Category 1 Credit.*™ For details, see page 5 and visit SfN.org/cme.

Find the latest session information at **SfN.org/minisymposia.**

Program at a Glance

Friday, Nov. 14	
8 a.m.–5 p.m.	NEUROBIOLOGY OF DISEASE WORKSHOP Stroke Recovery: Connecting Neuroimmunology, Regeneration, and Engineering to Restore Functional Circuits
8 a.m.–6 p.m.	SHORT COURSE 1 Advances in Multineuronal Monitoring of Brain Activity
8:30 a.m.–6:30 p.m.	SHORT COURSE 2 Advances in Brain-Scale, Automated Anatomical Techniques: Neuronal Reconstruction, Tract Tracing, and Atlasing
Saturday, Nov. 15	
8–9:15 a.m.	Meet-the-Expert Series: Session 1
9–11 a.m.	Careers Beyond the Bench
9–11 a.m.	Success in Academia
9:30–10:45 a.m.	Meet-the-Expert Series: Session 2
11 a.m.–1 p.m.	Dialogues Between Neuroscience and Society
1–2 p.m.	Getting the Most Out of SfN: The Annual Meeting and Beyond
1–3 p.m.	Graduate School Fair
1–3:30 p.m.	A Guide to Journal Publishing
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Empirical Approaches to Neuroscience and Society Symposium CME
1:30–4 p.m.	Symposia/Minisymposia CME
2–5 p.m.	How to Have a Difficult Conversation
3–4:30 p.m.	BRAIN AWARENESS CAMPAIGN EVENT Communicate Your Science
3–5 p.m.	Research Careers in Industry and the Private Sector
5:15–6:25 p.m.	Presidential Special Lecture CME
6:30–8:30 p.m.	Diversity Fellows Poster Session
6:30–8:30 p.m.	International Fellows Poster Session
6:30–8:30 p.m.	Travel Award Recipients Poster Session
7:30–9:30 p.m.	Career Development Topics: A Networking Event

Sunday, Nov. 16	
8 a.m.–noon	Posters/Nanosymposia
8:30–11 a.m.	Symposia/Minisymposia CME
9 a.m.–1 p.m.	NIH/NSF Workshop
9:30 a.m.–5 p.m.	Exhibits
11:30 a.m.–12:40 p.m.	David Kopf Lecture on Neuroethics
11:30 a.m.–1 p.m.	CHAPTERS WORKSHOP Chapter Value: Engaging Members and the Community
1–3 p.m.	Graduate School Fair
1–3 p.m.	SOCIAL ISSUES ROUNDTABLE The Neuroscience of Gaming
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia CME
2–3:30 p.m.	Successful Career Advancement Through Networking: Is It Who You Know?
2–5 p.m.	Internationalizing Your Research Experience
2:30–3:40 p.m.	Peter and Patricia Gruber Lecture
5:15–6:25 p.m.	Presidential Special Lecture CME
6:45–8:45 p.m.	SfN-Sponsored Socials



Monday, Nov. 17	
8 a.m.–noon	Posters/Nanosymposia
8:30–11 a.m.	Symposia/Minisymposia CME
9–11 a.m.	How to Effectively Communicate Your Science to the Public
9–11 a.m.	Teaching Neuroscience: Online Learning
9:30 a.m.–5 p.m.	Exhibits
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
5:15–6:25 p.m.	Presidential Special Lecture CME
6:45–8:45 p.m.	SfN-Sponsored Socials
Tuesday, Nov. 18	
8 a.m.–noon	Posters/Nanosymposia
8:30–11 a.m.	Symposia/Minisymposia CME
9:30 a.m.–5 p.m.	Exhibits
noon–2 p.m.	ANIMALS IN RESEARCH PANEL Global Ramifications of New Animal Rights Tactics
noon–2 p.m.	Celebration of Women in Neuroscience Luncheon
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia CME
2:30–3:40 p.m.	History of Neuroscience Lecture
3-5 p.m.	PUBLIC ADVOCACY FORUM Implications for Science Funding in an Era of Global Brain Initiatives
5:15–6:25 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
9 p.m.-midnight	Graduate Student Reception
Wednesday, Nov. 19	
8 a.m.–noon	Posters/Nanosymposia
8:30–11 a.m.	Symposia/Minisymposia CME
9:30 a.m.–5 p.m.	Exhibits
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia CME

CME This activity has been approved for *AMA PRA Category 1 Credit.*™ For details, see page 5 and visit SfN.org/cme.

Workshops, Meetings, and Events

Professional Development, Advocacy, and Networking Resources

Preregistration Required | $ Course Fee | Professional Development | Networking | Public Outreach | Online Content

Friday, Nov. 14

NEUROBIOLOGY OF DISEASE WORKSHOP

Stroke Recovery: Connecting Neuroimmunology, Regeneration, and Engineering to Restore Functional Circuits

8 a.m.–5 p.m.

Organizers: Marion Buckwalter, MD, PhD; Claudia Testa, MD, PhD
Contact: pdgp@sfn.org
Support Contributed by: National Institute of Neurological Disorders and Stroke

SHORT COURSE 1

Advances in Multineuronal Monitoring of Brain Activity

8 a.m.–6 p.m.

Organizer: Prakash Kara, PhD
Contact: pdgp@sfn.org

SHORT COURSE 2

Advances in Brain-Scale, Automated Anatomical Techniques: Neuronal Reconstruction, Tract Tracing, and Atlasing

8:30 a.m.–6:30 p.m.

Organizer: H. Sebastian Seung, PhD
Contact: pdgp@sfn.org

Workshop Fees

NEUROBIOLOGY OF DISEASE WORKSHOP.....$35
Includes breakfast, lunch, and reception

SHORT COURSE
Includes lunch and syllabus book

Student Member $140
Student Nonmember.....$170
Postdoctoral Member.....$210
Postdoctoral Nonmember $255
Faculty Member.....$275
Faculty Nonmember.....$355

Register at **SfN.org/registration.**

Note: Preregistration is required for Short Courses and Neurobiology of Disease Workshop

Saturday, Nov. 15

Meet-the-Expert Series

Contact: pdgp@sfn.org

SESSION 1

8–9:15 a.m.

John Donoghue, PhD
From Brain to Brain-Gate and Back: Moving Between Basic and Applied Neuroscience

Julie Fiez, PhD
Building a Program of Interdisciplinary Research that Bridges Neuroscience and Education

Samer Hattar, PhD
Dogmas Are There to Be Broken: New Photoreceptors in Your Eye

Helen Mayberg, MD
Support Contributed by: Yerkes National Primate Research Center
Studying Human Neuropsychiatric Disease Circuits From a Therapy Perspective

Peter Strick, PhD
The Mind–Body Connection

Feng Zhang, PhD
Editing the Genome to Understand Genetic Contributions of Disease

SESSION 2

9:30–10:45 a.m.

Rui M. Costa, DVM, PhD
The Acting Brain

Diane Lipscombe, PhD
I Wanted to Be a Detective But Discovered Neuroscience and Limitless Unsolved Mysteries

Mark Schnitzer, PhD
Large-Scale Optical Imaging of Ensemble Neural Activity in Freely Behaving Animals

Michal Schwartz, PhD
Breaking the Conceptual Walls Between the Brain and the Immune System: Implications for Aging and Neurodegenerative Diseases

Kenton Swartz, PhD
Exploring Ion Channel Structure and Gating Mechanisms Using Tarantula Toxins

Careers Beyond the Bench

9–11 a.m.

Organizer: Elisabeth Van Bockstaele, PhD
Contact: pdgp@sfn.org

Success in Academia

9–11 a.m.

Organizer: Tracy Bale, PhD
Contact: pdgp@sfn.org

Getting the Most Out of SfN: The Annual Meeting and Beyond

1–2 p.m.

Organizers: David Riddle, PhD; Jeffrey Smith, PhD; Hermes Yeh, PhD
Contact: pdgp@sfn.org

Graduate School Fair

1–3 p.m.

Contact: pdgp@sfn.org

A Guide to Journal Publishing

1–3:30 p.m.

Organizer: Shamus O'Reilly, PhD
Contact: pdgp@sfn.org

How to Have a Difficult Conversation

2–5 p.m.

Organizers: Michael Levine, PhD; Jennifer Raymond, PhD; Cheryl Sisk, PhD
Contact: pdgp@sfn.org

BRAIN AWARENESS CAMPAIGN EVENT

Communicate Your Science

3–4:30 p.m.

Contact: baw@sfn.org

Research Careers in Industry and the Private Sector

3–5 p.m.

Organizer: Gretchen Snyder, PhD
Contact: pdgp@sfn.org

Diversity Fellows Poster Session

6:30–8:30 p.m.

Contact: pdgp@sfn.org

International Fellows Poster Session

6:30–8:30 p.m.

Contact: globalaffairs@sfn.org

Travel Award Recipients Poster Session

6:30–8:30 p.m.

Contact: awards@sfn.org

Career Development Topics: A Networking Event

7:30–9:30 p.m.

Contact: pdgp@sfn.org

Sunday, Nov. 16

NIH/NSF Workshop

9 a.m.–1 p.m.

Organizer: Stephen Korn, PhD
Contact: pdgp@sfn.org

CHAPTERS WORKSHOP

Chapter Value: Engaging Members and the Community

11:30–1 p.m.

Organizers: Thomas S. Kilduff, PhD; Nancy W. Kleckner, PhD; Tanea T. Reed, PhD; Jordan Trecki, PhD
Contact: chapters@sfn.org

Graduate School Fair

1–3 p.m.

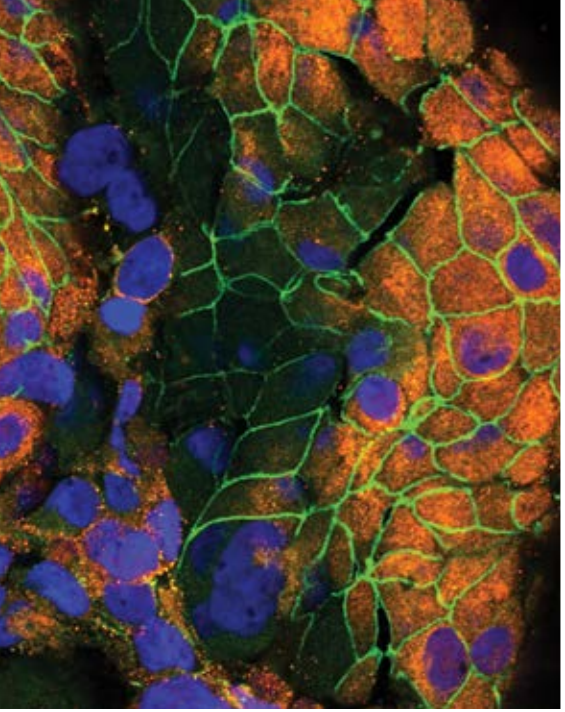
Contact: pdgp@sfn.org

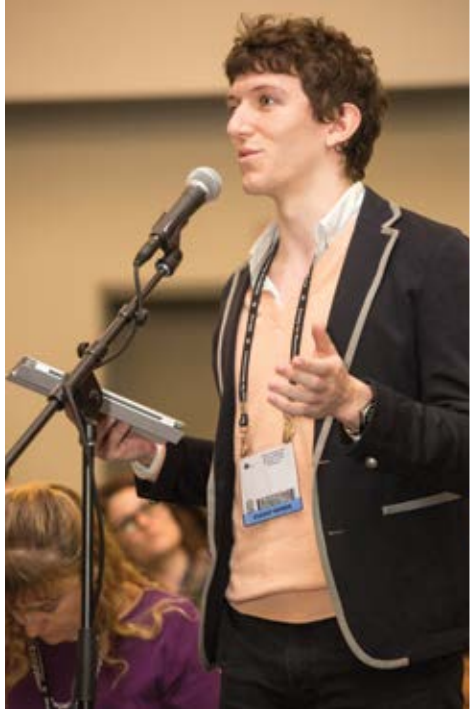
SOCIAL ISSUES ROUNDTABLE

The Neuroscience of Gaming

1–3 p.m.

Organizer: Jonathan Moreno, PhD
Contact: advocacy@sfn.org





Successful Career Advancement Through Networking: Is It Who You Know?

2–3:30 p.m.

Organizer: Mark Baxter, PhD
Contact: pdgp@sfn.org

Internationalizing Your Research Experience

2–5 p.m.

Organizers: Laura Colgin, PhD; Ketema Paul, PhD; Michael Zigmond, PhD
Contact: pdgp@sfn.org

Monday, Nov. 17

How to Effectively Communicate Your Science to the Public

9–11 a.m.

Organizer: Scott Thompson, PhD
Contact: pdgp@sfn.org

Teaching Neuroscience: Online Learning

9–11 a.m.

Organizer: Richard Olivo, PhD
Contact: pdgp@sfn.org

Tuesday, Nov. 18

ANIMALS IN RESEARCH PANEL

Global Ramifications of New Animal Rights Tactics

noon–2 p.m.

Organizer: Michael E. Goldberg, MD
Contact: advocacy@sfn.org

Celebration of Women in Neuroscience Luncheon

noon–2 p.m.

Contact: cwin@sfn.org

PUBLIC ADVOCACY FORUM

Implications for Science Funding in an Era of Global Brain Initiatives

3–5 p.m.

Organizer: Anne Young, MD, PhD
Contact: advocacy@sfn.org

SfN Members' Business Meeting

6:45–7:30 p.m.

Contact: info@sfn.org

Graduate Student Reception

9 p.m.–midnight

Contact: meetings@sfn.org

Child Care and Youth Programs

On-site child care and youth programs will be available for children ages 6 months to 12 years. KiddieCorp, a national firm with more than 20 years of experience in conference child care, provides attendees with a trustworthy option during the annual meeting.

SPACE IS LIMITED. RESERVE EARLY!

kiddiecorp.com/neurokids.htm

Find the latest session information at **SfN.org/workshops.**

SfN-Sponsored Socials

Sunday, Nov. 16 6:45–8:45 p.m.

- Cajal Club Social
- Cell Death and Cell Stress Social
- Clinical Neuroscience Social
- Hearing and Balance Social
- Neuroethology/Invertebrate Neurobiology Social
- Spinal Cord Injury Social
- Synapses and Excitatory Amino Acids Social

Monday, Nov. 17 6:45–8:45 p.m.

- Alzheimer's and Related Dementias Socials
- Behavioral Neuroendocrinology Social
- Developmental Neurobiology Social
- Eye Movements and Vestibular System Social
- Faculty for Undergraduate Neuroscience Social
- Hippocampus Social
- Ingestive Social
- Music Social
- Neural Control of Autonomic and Respiratory Function Social
- Pavlovian Society Social
- Psychopharmacology Social
- Vision Social

Tuesday, Nov. 18 6:45–8:45 p.m.

- Cognitive Neuroscience Social
- Computational Neuroscience Social
- Epilepsy Social
- Neuroendocrinology Social
- Neuroethics Social
- Optogenetics Social
- Sensorimotor Social
- Songbird Social

Satellite Events

Satellite events are not planned or sponsored by SfN.

Multi-Day Events

7th International Workshop on Advances in Electrocorticography
Nov. 13 8:30 a.m.–5:30 p.m.
Nov. 14 8:30 a.m.–6:30 p.m.

9TH BRAIN RESEARCH CONFERENCE
Neuroprotection: Basic Mechanisms and Translational Potential
Nov. 13–14 8 a.m.–6 p.m.

13TH ANNUAL MOLECULAR AND CELLULAR COGNITION SOCIETY
Course: "Tools to Integrate and Plan Experiments in Neuroscience"
Nov. 13 12–4 p.m.
Poster Session
Nov. 13 6:30–9:30 p.m.
Meeting
Nov. 14 9 a.m.–5 p.m.

Barrels XXVII
Nov. 13 8 a.m.–10 p.m.
Nov. 14 8 a.m.–5 p.m.

Cell Symposia: Translational Neuroscience
Nov 13–14 8:30 a.m.–5:30 p.m.

GABAergic Signaling in Health and Disease: 23rd Neuropharmacology Conference
Nov. 13 8:30 a.m.–6:30 p.m.
Nov. 14 8:30 a.m.–7 p.m.

J.B. Johnston Club for Evolutionary Neuroscience
Nov. 13 7:30 a.m.–7 p.m.
Nov. 14 7 a.m.–9 p.m.

Synaptopathies in Neurodevelopmental Disorders: SHANK mutations as a Window into Synaptic Function: Panel Discussions
Nov. 13 1–6 p.m.
Poster Session and Reception
Nov. 13 6–8:30 p.m.
Panel Sessions
Nov. 14 8 a.m.–5:30 p.m.

International Neuroethics Society Public Program
Nov. 13 5–7:30 p.m.
Annual Meeting
Nov. 14 7:30 a.m.–7:30 p.m.

Birdsong 4: Rhythms and Clues From Neurons to Behavior
Nov. 14 8 a.m.–7 p.m.
Nov. 15 8–10:30 a.m.

Thursday, Nov. 13

American Society of NeuroRehabilitation (ASNR) Annual Meeting
7 a.m.–10 p.m.

Friday, Nov. 14

Tucker-Davis Symposium on Advances and Perspectives in Auditory Neurophysiology (APAN)
7 a.m.–7 p.m.

National Institute on Drug Abuse Frontiers in Addiction Research Mini-Convention
8 a.m.–6 p.m.

PTSD, the Amygdala, and Alcohol Use Disorders
8:30 a.m.–5:30 p.m.

Advances in ALS and FTD Genetics
8:30 a.m–6 p.m.

7th Satellite Symposium on Motor Systems
9 a.m.–5 p.m.

Using NEURON to Model Cells and Networks
9 a.m.–5 p.m.

Next Generation Technologies for Large-Scale Recordings of Neural Activity
1–6 p.m.

Saturday, Nov. 15

Using the Neuroscience Gateway Portal for Parallel Simulations
8:30–10:30 a.m.

g.tec's Brain-Computer Interface Workshop
6:30–9 p.m.

Sunday, Nov. 16

Stanford Neuroscience Program Alumni Reception
6:30–7:30 p.m.

Find the latest social information at **SfN.org/socials.**

ASPET's Neuropharmacology Division Social
6:30–8 p.m.

Decision-Making Social: Society for Neuroeconomics
6:30–8 p.m.

Drexel University College of Medicine Alumni Reception
6:30–8 p.m.

Georgetown University Neuroscience Reception
6:30–8 p.m.

International Behavioral Neuroscience Society (IBNS) Reception
6:30–8 p.m.

Journal of Neurophysiology Social
6:30–8 p.m.

NeuroRehabilitation Social
6:30–8 p.m.

Arab Neuroscientists Social
6:30–8:30 p.m.

Evelyn F. McKnight Brain Research Foundation Poster Reception
6:30–8:30 p.m.

g.tec's Functional Mapping with the ECoG
6:30–8:30 p.m.

University of Chicago Reception
6:30–8:30 p.m.

2014 NIMH BRAINS Awards Ceremony
6:30–9 p.m.

Chinese Neuroscientist Social
6:30–9 p.m.

Ernst Strüngmann Forum Social
6:30–9:30 p.m.

So You Want to Be a Scientist… and Get Paid Along the Way: A Workshop for Early Career Investigators
6:30–9:30 p.m.

OIST Social
7–9 p.m.

Boston University Graduate Program for Neuroscience Reception
7–10 p.m.

Dutch Neuroscience Social 2014
7–10 p.m.

Monday, Nov. 17

Exploring the Mind Using the Semblance Hypothesis
7–8 a.m.

DFG Leibniz Lecture: Christian Haass
6:30–7:30 p.m.

Annual International Society for Serotonin (ISSR, formerly Serotonin Club) Mixer
6:30–8 p.m.

The Grass Foundation and Marine Biological Laboratory Social
6:30–8 p.m.

Club Hypnos
6:30–8:00 p.m.

Axon Electrophysiology Symposium
6:30–8:30 p.m.

Friends of Ohio State University Social
6:30–8:30 p.m.

Neuron-Glia Interactions Social
6:30–8:30 p.m.

Schizophrenia Social
6:30–8:30 p.m.

WWN Mentoring Circles to Increase Collaborations, Networking and Careers in Neuroscience
6:30–8:30 p.m.

Autism-Like Behaviors in Rodent Models
6:30–9 p.m.

Lafayette-Campden 2014 Touch Screen Seminar
6:30–9 p.m.

Simons Foundation Autism Research Initiative (SFARI) Social
6:30–9 p.m.

11th Anniversary of the Christopher Reeve "Hot Topics" in Stem Cell Biology Data Blitz
6:30–9:30 p.m.

Association of Korean Neuroscientists: Annual Meeting and Social
6:30–9:30 p.m.

Knockout Rats: Generation and Characterization of More Translational Models of Parkinson's Disease
6:30–9:30 p.m.

Taiwan Night
6:30–9:30 p.m.

LGBT Social
7–9 p.m.

Neuroscience in Germany XXI Social
7:30–10 p.m.

Sleep and Circadian Biology DataBlitz
8–10 p.m.

Tuesday, Nov. 18

IRNSC Annual Social Event
6:30–8:30 p.m.

Get updates at **SfN.org/satellites.**

Registration

All members must be in good standing at the time of registering for the annual meeting to receive member rates. Membership status will be verified. Fees vary based on registration categories and options. Refunds will not be issued for incorrect registration category. If uncertain about your membership status, contact membership@sfn.org or call (202) 962-4000. **Not a member? Join today and get advance registration.**

Register early and save!

Bonus Day Opens Tuesday, July 15, noon EDT, for members who renewed their membership by Jan. 31, 2014.

Registration Category Single day registration is not available.	Advance Members Opens July 16 noon EDT. Nonmembers Opens July 22 noon EDT through Sept 17.	Online Discount Opens Sept. 18 at midnight EDT and continues through the annual meeting.	On-Site In Line Opens Nov. 15 at 7:30 a.m. EST and continues through the annual meeting.
Member	$305	$355	$430
Member Category II	$110	$135	$165
Member Category III	$165	$190	$225
Postdoctoral Member	$230	$265	$320
Postdoctoral Member Category II	$85	$100	$130
Postdoctoral Member Category III	$120	$150	$170
Student Member	$120	$140	$175
Student Member Category II	$35	$40	$45
Student Member Category III	$60	$75	$95
Student Member Undergraduate	$85	$100	$125
Student Member Undergraduate Category II	$30	$35	$40
Student Member Undergraduate Category III	$45	$55	$65
Nonmember	$545	$630	$760
Student Nonmember	$210	$220	$260
Guest – Non-Scientific	$45	$50	$60
CME Accreditation	$80	$95	$95

Accepted Forms of Payment

MasterCard, Visa, American Express, Discover Card, checks or money orders in U.S. dollars drawn on a U.S. bank made payable to the Society for Neuroscience. Cash accepted on-site only.

Registration Contact Information

Phone hours open 9 a.m.–5 p.m. EDT
(888) 736-6690 U.S. AND CANADA
+1 (508) 743-0137 INTERNATIONAL
sfn2014@xpressreg.net

Travel Resources

Hotel Information

Housing for registered members who renewed by Jan. 31, 2014
Opens Tuesday, July 15, noon EDT

Housing for all other members
Opens Wednesday, July 16, noon EDT

Housing for registered nonmembers
Opens Tuesday, July 22, noon EDT

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.

The Marriott Marquis Washington DC and the Renaissance Washington DC are the official co-headquarters hotels.

Reservation Policies and Procedures

To make a hotel reservation through SfN Housing, you must be registered for Neuroscience 2014. Only one hotel room may be reserved per paid registrant until Tuesday, September 2.

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 Monday, September 15 for students and member category I, II, and III registrants.

Housing for exhibitors opens Tuesday, July 29. For exhibitor hotel reservation information, visit SfN.org/exhibits.

You may change or cancel hotel reservations until Friday, October 17.

Shuttle Service

The Society for Neuroscience will provide complimentary shuttle service to and from the Walter E. Washington Convention Center and most SfN-contracted hotels from Saturday through Wednesday. Shuttle routes and intervals of service will be available online this summer.

Airport

Ronald Reagan National Airport (DCA)
(Five miles from downtown Washington, DC)
(703) 417-8000
metwashairports.com/reagan

Washington Dulles International Airport (IAD)
(27 miles from downtown Washington, DC)
(703) 572-2700
metwashairports.com/dulles

Baltimore Washington International Thurgood Marshall Airport (BWI)
(32 miles from downtown Washington, DC)
(410) 859-7111
bwiairport.com

International Attendees

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.

Housing Contact Information

Phone hours open 9 a.m.–9 p.m. EDT
(866) 999-3093 U.S. AND CANADA
+1 (415) 268-2091 INTERNATIONAL
sfnhousing@cmrus.com

Annual Meeting Contributors

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

Amgen

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Young Investigator Award

Burroughs Wellcome Fund

The Dana Foundation
Science Educator Award

Elsevier
Dialogues Between Neuroscience and Society Lecture

The Grass Foundation
Albert and Ellen Grass Lecture
Donald B. Lindsley Prize in Behavioral Neuroscience

The Gruber Foundation
Peter and Patricia Gruber International Research Award in Neuroscience
Peter and Patricia Gruber Lecture

David Kopf Instruments
David Kopf Lecture on Neuroethics

Eli Lilly and Company Foundation
Julius Axelrod Prize

National Institute of Neurological Disorders and Stroke
Neurobiology of Disease Workshop
Neuroscience Scholars Program

The Nemko Family

The Nemko Family
Nemko Prize in Cellular or Molecular Neuroscience

Optical Imaging Ltd.
Meet-the-Expert Series

Friends of SfN Fund and SfN Memorial Fund
Travel Awards

The Swartz Foundation
Swartz Prize for Theoretical and Computational Neuroscience

The Trubatch Family

The Trubatch Family
Janett Rosenberg Trubatch Career Development Awards

The Waletzky Award Prize Fund

The Waletzky Award Prize Fund
Jacob P. Waletzky Award

Yerkes National Primate Research Center
Meet-the-Expert Series

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Front Cover
Portion of lobule VII of cerebellum from the mouse model of the lysosomal disease, late-infantile neuronal ceroid lipofuscinosis (CLN2 disease). Immunofluorescence labeling shows calbindin-positive Purkinje cells (red) and DAPI-labeled nuclei (blue) in relation to aberrant accumulation of the macroautophagy adapter protein p62/Sqstm1 (green) in protein aggregates. p62 responds to lysosomal membrane permeability in CLN2 disease by sequestering released lysosomal content in intraneuronal aggregates. Image generated by M. C. Micsenyi.

Courtesy, with permission: Matthew C. Micsenyi, Jakub Sikora, Gloria Stephney, Kostantin Dobrenis, and Steven U. Walkley, 2013, *The Journal of Neuroscience* 33: 10815-10827

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Large numbers of retinal ganglion cells (red) project aberrantly to the opposite eye in developing mutant mouse embryos lacking the heparan sulfotransferase enzyme Hs6st1.

Courtesy, with Permission: Thomas Pratt, Christopher D. Conway, Natasha M. M.-L. Tian, David J. Price, and John O. Mason, 2006, *The Journal of Neuroscience*, 26: 6911-6923.

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A merged image taken by confocal microscopy showing the extent of infiltration (Hoechst 33258; blue), demyelination (myelin basic protein; green), and axonal loss (neurofilament 200; red) in a lesion site of the lumbar spinal cord of a WldS mouse with induced experimental autoimmune encephalomyelitis (EAE). Many axons are preserved within the EAE lesions in WldS but not wild-type mice.

Courtesy, with permission: Shinjiro Kaneko, Jing Wang, Marie Kaneko, Glenn Yiu, Joanna M. Hurrell, Tanuja Chitnis, Samia J. Khoury, and Zhigang He, 2006, *The Journal of Neuroscience*, 26: 9794-9804.

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Choroid plexus epithelial cells (CPECs) differentiated from human embryonic stem cell-derived neuroepithelial progenitors. CPEC markers TTR and ZO1 are marked in red and green, respectively, with Hoechst nuclear counterstaining in blue.

Courtesy, with permission: Momoko Watanabe, Young-Jin Kang, Lauren M. Davies, Sanket Meghpara, Kimbley Lau, Chi-Yeh Chung, Jaymin Kathiriya, Anna-Katerina Hadjantonakis, and Edwin S. Monuki, 2012, *The Journal of Neuroscience*, 32: 15934-15945.

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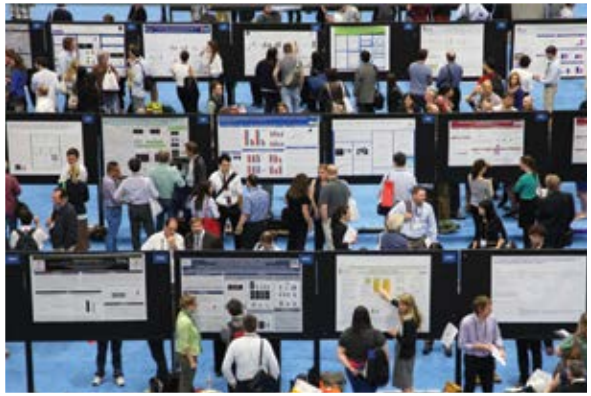

Important Dates

- **Bonus Day Registration and Housing Opens July 15**
  For members who joined or renewed their 2014 membership by Jan. 31, 2014.
- **Advance Member Registration and Housing Opens July 16**
- **Advance Nonmember Registration and Housing Opens July 22**

For details, registration fees, and up-to-date information, visit SfN.org.

Not a member? Join today and get advance registration.