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Information is current as of November 3, 2026. See the Neuroscience 2026 Neuroscience Meeting Planner on SfN.org for the most up-to-date information.

Lecture

LEC01: Dialogues Between Neuroscience and Society: Cosmology, the Brain, and Thinking Outside the Box — Neta A. Bahcall

Location: WCC Hall D

Time: Saturday, November 14, 2026, 10:00 AM - 12:00 PM

Session Sponsor:

Moderator: *S. KASTNER;
Princeton Univ., Princeton, NJ

Disclosures:

Moderator: *W. KOROSHETZ;
Dana Fndn., Washington, DC

Disclosures:

Moderator: *N. X. TRITSCH;
McGill Univ., Montreal, QC, Canada

Disclosures:

Featured Lecture: *N. A. BAHCALL;
Princeton Univ., Princeton, NJ

Disclosures: N.A. Bahcall: None.

Speaker: N. C. Spitzer;
UCSD, Del Mar, CA.

Disclosures:

Speaker: E. E. Marder;
Brandeis University, WALTHAM, MA.

Disclosures: E.E. Marder: None.

Speaker: T. J. Sejnowski;
Salk Institute, La Jolla, CA.

Disclosures:

Abstract: How are cosmology and neuroscience related? Both address fundamental questions in science. Each involves exploring invisible systems. In cosmology, ~95% of the universe is unseen. In neuroscience, essential variables are also hidden, accessible only through indirect measurements. Cosmology breakthroughs are a combination of experiment and theory, using standard and “out-of-the-box” thinking. These conceptual and methodological advances may inspire new ways of probing the mysteries of the brain.

Lecture

LEC02: Special Lecture: SARM1 Signaling in the Injured Nervous System — Marc R. Freeman

Location: WCC Hall D

Time: Saturday, November 14, 2026, 1:00 PM - 2:00 PM

Session Sponsor:

Moderator: *E. HECKSCHER;
Univ. of Chicago, Chicago, IL

Disclosures:

Lecture: *M. R. FREEMAN;
Vollum Inst., Portland, OR

Disclosures: M.R. Freeman: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); I am a founder of NuraBio.

Abstract: Neuronal injury activates a SARM1-dependent auto-destruction program required for neurodegeneration. Accumulating evidence also argues that Sarm1 promotes axon and synaptic loss in neurological disease. This lecture will discuss SARM1 signaling mechanisms in multiple physiological contexts, additional pro-degenerative signaling pathways that converge with SARM1, and regulators of pathway output that can modulate SARM1-mediated neurodegeneration.

Grant Support: NIH Grant NS059991
NIH Grant NS141928
ALS Finding a Cure
ALS Therapy Alliance

Lecture

LEC03: SfNova Lecture: Jennifer Li & Drew N. Robson; Andrew Yang

Location: WCC Hall D

Time: Saturday, November 14, 2026, 3:00 PM - 4:00 PM

Session Sponsor:

Intro/Close: *N. X. TRITSCH;
McGill Univ., Montreal, QC, Canada

Disclosures:

Moderator: *J. LI;
Peking Univ., Beijing, China

Disclosures:

Moderator: *Y. ZHANG;
Massachusetts Gen. Hospital/Harvard Med. Sch., Charlestown, MA

Disclosures:

Lecture: *J. LI;
Max Planck Inst. for Biol. Cybernetics, Tübingen, Germany

Disclosures: J. Li: None.

Lecture: *D. N. ROBSON;
Max Planck Inst. for Biol. Cybernetics, Tübingen, Germany

Disclosures: D.N. Robson: None.

Lecture: *A. YANG;
Gladstone Inst., San Francisco, CA

Disclosures: A. Yang: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Equity in Traverse Therapeutics, Scientific Co-founder.

Abstract: *Uncovering the Neural Mechanisms of Spatial Cognition With Behavior-Aware Autonomous Microscopes*
Jennifer Li, PhD and Drew N. Robson, PhD
Max Planck Institute for Biological Cybernetics
Theme G: Integrative Physiology and Behavior
The speakers develop self-driving tracking microscopes for brain-wide, cellular-resolution imaging in freely moving animals. These systems have led to the discovery of complex brain states and spatial cognitive representations (e.g. place cells) in zebrafish. The talk will discuss how autonomous imaging systems with embedded intelligence can enable systematic

investigation of the emergence and reorganization of brain-wide neural networks across an animal's lifetime without human intervention.

Towards Solving the Blood-Brain Barrier
Andrew Yang, PhD
Gladstone Institutes
Theme D: Neuroimmunity, Neurovasculature, and Neural Injury
For over a century, the blood-brain barrier (BBB) has been defined by what it blocks. New molecular tools are now revealing how it orchestrates traffic between brain and body. This talk will describe how the healthy BBB transports blood proteins into the brain, clears neuronal waste through specialized exit routes, and retains immune cells based on their activation state — and how these processes go awry in disease. These discoveries suggest the BBB operates by learnable rules that can be harnessed for new therapies.

Grant Support: ERC Synergy Grant
ERC Synergy Grant COGNECTOMICS
NIH Grant DP5OD033381
NIH Grant R01NS128909

Lecture

LEC04: Presidential Special Lecture: How Nature and Nurture Conspire to Control Brain Development and Function — Michael E. Greenberg

Location: WCC Hall D

Time: Saturday, November 14, 2026, 5:30 PM - 6:45 PM

Session Sponsor:

Intro/Close: *N. C. SPITZER;
UCSD, Del Mar, CA

Disclosures:

Featured Lecture: M. E. GREENBERG;
Harvard Med. Sch., Boston, MA

Disclosures: M.E. Greenberg: None.

Abstract: In this lecture, the lecturer reflects on a 40-year scientific journey focused on a fundamental question: how do nature (genetic programs) and nurture (environmental experience) converge to shape learning, memory, and behavior? The lecturer will begin with a brief historical perspective, then highlight recent discoveries showing how sensory-dependent gene transcription, initiated within hours, can generate enduring memories, and conclude with emerging evidence that a blood-borne factor acting through astrocytes shapes brain plasticity.

Grant Support: NIH/NIA AG084551
NIH/NINDS R35NS143029

Lecture

LEC05: Special Lecture: Learning to Move: What Development and Neurological Injury Reveal — Amy J. Bastian

Location: WCC Hall D

Time: Sunday, November 15, 2026, 9:00 AM - 10:00 AM

Session Sponsor:

Moderator: *N. X. TRITSCH;
McGill Univ., Montreal, QC, Canada

Disclosures:

Lecture: *A. J. BASTIAN;
Kennedy Krieger Inst., Baltimore, MD

Disclosures: A.J. Bastian: None.

Abstract: Human motor learning relies on a suite of brain mechanisms that are driven by distinct signals, such as reward and error, and have different vulnerabilities to neurological damage. This lecture will describe how motor learning abilities change across the lifespan — how these mechanisms mature from early childhood to adulthood, how learning profiles differ across mechanisms, and how neurological injury disrupts them. These insights can guide individualized rehabilitation strategies that leverage intact mechanisms when others are impaired.

Grant Support: NIH Grant R35NS122266
NIH Grant P50HD118624
NIH Grant R01HD040289
Raynor Cerebellum Project

Lecture

LEC06: Special Lecture: A Journey to the Emotional Center of the Brain — Katalin M. Gothard

Location: WCC Hall D

Time: Sunday, November 15, 2026, 10:30 AM - 11:30 AM

Session Sponsor:

Moderator: *L. M. ROMANSKI;
Univ. of Rochester, Rochester, NY

Disclosures:

Lecture: *K. M. GOTHARD;
Univ. of Arizona, Tuscon, AZ

Disclosures: K.M. Gothard: None.

Abstract: Emotions shape perception, decision making, memory, and social interactions. This lecture proposes that the emotional and social functions of the brain emerge from closed-loop interactions between central neural circuits and body physiology that coordinate homeostasis and allostasis. This lecture invites a reconsideration of where emotions reside — not in a central structure, but in the dynamic interplay between brain and body that unfolds over multiple time scales.

Grant Support: R01MH135267
R01MH121706
1U24AG072701
R01MH121009
P50MH100023
1R56MH115681

Lecture

LEC07: Clinical Neuroscience Lecture: Mending the Mind: From Single Neurons to Memory Neuroprosthetics — Itzhak Fried

Location: WCC Hall D

Time: Sunday, November 15, 2026, 12:00 PM - 1:00 PM

Session Sponsor:

Moderator: *D. SCHILLER;
Icahn Sch. of Med. at Mount Sinai, New York, NY

Disclosures:

Lecture: *I. FRIED;
UCLA, Los Angeles, CA

Disclosures: I. Fried: None.

Abstract: Neurosurgical opportunities to record and stimulate single neurons in humans who can report their memories and intentions provide a unique window into the biology of mind. The speaker will present neuronal codes for space, time, and conceptual content derived from single-neuron and population activity in the hippocampal-entorhinal system; review modulation across wake-sleep cycles to enhance memory encoding and consolidation; and discuss ongoing work on targeted modification of specific memories.

Grant Support: NIH Grant U01NS123128
NIH Grant R01NS08401
NIH Grant U01NS108930
NSF Grant PD15-1699

Lecture

LEC08: Special Lecture: Bayesian Inference and Reinforcement Learning in the Cortico-Basal Ganglia Circuits — Kenji Doya

Location: WCC Hall D

Time: Sunday, November 15, 2026, 1:30 PM - 2:30 PM

Session Sponsor:

Moderator: *S. W. CHANG;
Yale Univ., New Haven, CT

Disclosures:

Lecture: *K. DOYA;
Okinawa Inst. of Sci. and Technol. Grad. Univ., Onna Village, Okinawa, Japan

Disclosures: K. Doya: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Suntory Holdings Limited.

Abstract: Dynamic Bayesian inference and reinforcement learning are major computational approaches in learning to act in uncertain environments. This lecture presents theoretical hypotheses regarding how dynamic Bayesian inference and reinforcement learning can be realized in the neural circuits of the sensory and motor cortices and the basal ganglia, and experimental findings motivated by such hypotheses, including calcium imaging, optogenetic manipulations, and numerical simulations.

Grant Support: JSPS Grant JP16H06563, JP23H04975
AMED Grant JP23wm0625001
JST Grant JPMJPF2205

Lecture

LEC09: Peter and Patricia Gruber Lecture: A 40-Year Career Studying the Genetics of Forebrain Development: From a Black Box to Gene Regulatory Networks and Clinical Therapy — John Rubenstein

Location: WCC Hall D

Time: Sunday, November 15, 2026, 3:00 PM - 4:30 PM

Session Sponsor: The Gruber Foundation

Intro/Close: *A. HREHA;
Yale University, Office of Develop., The Gruber Fndn., New Haven, CT

Disclosures:

Intro/Close: *J. R. SANES;
Cambridge, MA

Disclosures:

Intro/Close: *N. C. SPITZER;
UCSD, Del Mar, CA

Disclosures:

Moderator: *H. T. CLINE;
The Scripps Res. Inst., La Jolla, CA

Disclosures:

Moderator: *M. E. GREENBERG;
Harvard Med. Sch., Boston, MA

Disclosures:

Featured Lecture: *J. RUBENSTEIN;
Univ. of California, San Francisco, San Francisco, CA

Disclosures:

Abstract: This lecture will review work unravelling genetic pathways and developmental processes that underlie regional specification, morphogenesis, and cellular differentiation of the cerebral cortex and basal ganglia. The lecturer will highlight the distinct transcriptional networks controlling differentiation of forebrain GABAergic and glutamatergic neurons, and the tangential migration of GABAergic cortical interneurons from the basal ganglia. The lecture will touch on clinical translational work that arose from the basic studies.

Lecture

LEC10: Presidential Special Lecture: Rett Syndrome and MeCP2 Disorders: Genes, Circuits, and Treatment Strategies — Huda Y. Zoghbi

Location: WCC Hall D

Time: Sunday, November 15, 2026, 5:30 PM - 6:45 PM

Session Sponsor:

Intro/Close: *N. C. SPITZER;
UCSD, Del Mar, CA

Disclosures:

Featured Lecture: *H. Y. ZOGHBI;
Howard Hughes Med. Institute/Baylor Col. of Medicine/ Duncan Neurolog. Res. Inst. at Texas Children's Hosp., Houston, TX

Disclosures: H.Y. Zoghbi: A. Employment/Salary (full or part-time):; Howard Hughes MEdical Institute. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; UCB pharma for studies into spinocerebellar ataxia type 1. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regeneron Pharmaceuticals, Cajal Therapeutics, Zoghbi, HY, Tirumala, HP, Wang, L. Antisense Oligonucleotides for Rett Syndrome. International Publication Number WO 2024/249916. Filed May 31, 2024, Publication date Dec 5, 2024. F. Consulting Fees (e.g., advisory boards); The Column group, SAB member, Lyterian therapeutics, SAB, Cajal Therapeutics, Co-founder and SAB member, Neurogene SAB member, probono, Regeneron Board of Directors.

Abstract: Rett syndrome is a severe childhood neurological disorder caused by mutations in methyl CpG binding protein 2 (MeCP2). The brain is acutely sensitive to MeCP2 levels — both loss and gain of function produce neurological disease in mice and humans. This lecture will cover cell-specific molecular changes downstream of MeCP2 dysfunction, the neuronal and circuit abnormalities driving Rett phenotypes, and therapeutic strategies targeting MeCP2 loss and gain.

Grant Support: Howard Hughes Medical Institute
NIH 2R37NS27699-34
NIH 1R01 NS057819-17
UCB Pharma
Freedom Together Foundation
Simons Foundation

Lecture

LEC11: Special Lecture: Towards a New Pharmacotherapy of Pain: Beyond Morphine — Allan I. Basbaum

Location: WCC Hall D

Time: Monday, November 16, 2026, 9:00 AM - 10:00 AM

Session Sponsor:

Moderator: *R. P. SEAL;
Univ. of Pittsburgh, Pittsburgh, PA

Disclosures:

Lecture: *A. I. BASBAUM;
Univ. of California, San Francisco, San Francisco, CA

Disclosures: A.I. Basbaum: F. Consulting Fees (e.g., advisory boards); Member Scientific Advisory Board: Neurona Therapeutics Rapport Therapeutics. Other; Founder, Kairu Therapeutics.

Abstract: Although opioids predominate in the management of chronic pain, severe adverse side effects, including respiratory depression and dependence development, greatly limit their use. This lecture will address the latest preclinical approaches to manage chronic pain, including *in silico* screening of novel pharmacotherapeutics, neuromodulation, gene therapy and selective targeting of peripheral nervous system pain generating mechanisms. There is reason to be optimistic.

Grant Support: DARPA HR0011-19-2-0020
NIH R35NS097306
Open Philanthropy
Facial Pain Research Foundation

Lecture

LEC12: Special Lecture: Social Behaviors: Innate Yet Flexible — Dayu Lin

Location: WCC Hall D

Time: Monday, November 16, 2026, 10:30 AM - 11:30 AM

Session Sponsor:

Moderator: *D. DUMITRIU;
Columbia Univ., New York, NY

Disclosures:

Lecture: D. LIN;
New York Univ. Langone Med. Ctr., New York, NY

Disclosures: D. Lin: None.

Abstract: Social behaviors, such as aggression and parental care, are essential for the survival of individuals and the species as a whole. Given their fundamental roles, the neural circuits underlying these innate behaviors are thought to be genetically and developmentally hardwired. However, despite their innate nature, the readiness to express these behaviors is highly plastic and can be shaped by social experience and reproductive state. In this talk, the lecturer will present recent findings on the neural mechanisms that enable this flexibility in social behavior.

Grant Support: NIH Grant R01HD116127
NIH Grant R01MH101377
NIH Grant R01MH124927
NIH Grant U01DA063565
NIH Grant U19 BRAIN NS107616
Vulnerable Brain Project
Brain Research Foundation

Lecture

LEC13: Special Lecture: Ultrasound in Neuroscience — Mickael Tanter

Location: WCC Hall D

Time: Monday, November 16, 2026, 12:00 PM - 1:00 PM

Session Sponsor:

Moderator: *V. EMILIANI;
Vision Insitut, CNRS, Paris, France

Disclosures:

Lecture: *M. TANTER;
INSERM, Paris, France

Disclosures: M. Tanter: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); M. Tanter is co-founder and shareholder of Iconeus, eMyoSound and Sonomind companies. F. Consulting Fees (e.g., advisory boards); M. Tanter is board member of Iconeus, eMyoSound and Sonomind companies.

Abstract: Ultrasound is fast evolving as an essential imaging and therapeutic modality in neuroscience. The speaker will describe the concepts and applications of ultrasound in neuroscience. He will present functional ultrasound neuroimaging and its impact from preclinical neuroscience to clinical applications. He will show how Ultrasound Localization Microscopy leads to non-invasive, deep and quantitative imaging of hemodynamics up to the micron scale. Finally, he will describe its combination with sonogenetics and the use of ultrasound deep neuromodulation.

Grant Support: European Innovation Council Pathfinder Grant Microvasc
European Research Council Synergy Grant NeuroSonoGene
European Research Council Advanced Grant Fusimagine
France 2030 Plan Investissement Avenir - Project Zeus

Lecture

LEC14: Albert and Ellen Grass Lecture: Keeping Your Brain in Balance: Homeostatic Tuning of Network Function — Gina Turrigiano

Location: WCC Hall D

Time: Monday, November 16, 2026, 3:00 PM - 4:30 PM

Session Sponsor: The Grass Foundation

Intro/Close: *N. C. SPITZER;
UCSD, Del Mar, CA

Disclosures:

Moderator: *E. SALINAS;
Wake Forest Univ. Sch. of Med., Winston Salem, NC

Disclosures:

Featured Lecture: *G. TURRIGIANO;
Brandeis Univ., Waltham, MA

Disclosures: G. Turrigiano: None.

Abstract: Our brains must generate stable activity over decades of life, despite dramatic changes in connectivity and function driven by development and learning. This trick of being both plastic and stable is enabled by “homeostatic” forms of plasticity that regulate activity around setpoint values. This lecture will discuss how neurons and circuits tune their own excitability to maintain stable output and preserve information flow, and how homeostatic setpoints contribute to ethological learning.

Grant Support: NIH R01EY025613
NIH R35NS111562

Lecture

LEC15: Presidential Special Lecture: How Does Bidirectional Astrocyte-Neuron Signaling Drive Circuit Formation and Function? — Cagla Eroglu

Location: WCC Hall D

Time: Monday, November 16, 2026, 5:30 PM - 6:45 PM

Session Sponsor:

Intro/Close: *N. C. SPITZER;
UCSD, Del Mar, CA

Disclosures:

Featured Lecture: *C. EROGLU;
Duke University/Howard Hughes Med. Inst., Durham, NC

Disclosures: C. Eroglu: None.

Abstract: Astrocytes are integral components of neural circuits that actively communicate with neurons to shape synapse formation, maturation, and plasticity. This lecture will examine how bidirectional astrocyte-neuron signaling coordinates excitatory and inhibitory circuit assembly through contact-dependent mechanisms and secreted factors, and how this dynamic interplay contributes to circuit function and refinement in development and disease.

Grant Support: NIH Grant U19NS123719
HHMI
Adelson Medical Research Foundation
MJFF and Aligning Science Across Parkinson's Initiative

Lecture

LEC16: Special Lecture: Stable Brains in Changing Bodies: Rethinking Plasticity in Sensory Cortex — Tamar R. Makin

Location: WCC Hall D

Time: Tuesday, November 17, 2026, 9:00 AM - 10:00 AM

Session Sponsor:

Moderator: *R. ACKERLEY;
CNRS - Aix-Marseille Univ., Marseille, France

Disclosures:

Lecture: *T. R. MAKIN;
Univ. of Cambridge, Cambridge, United Kingdom

Disclosures: T.R. Makin: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Cambridge.

Abstract: Does sensory cortex reorganize throughout life? The speaker will revisit this assumption using evidence from amputation, congenital limb absence, and motor augmentation. The lecture will show that while reorganization may occur in early development, adult hand representations remain stable despite amputation. Motor demands will shape fine-grained aspects of sensorimotor maps, placing opportunities and limits on adult brain plasticity and its role in technological integration.

Grant Support: UKRI's Frontier Research Guarantee (EP/X040372/1)
Engineering and Physical Sciences Research Council (EP/W004062/1)
Medical Research Council (MC_uu_00030/10)
Wellcome Trust Senior Research Fellowship (215575/Z/19/Z)

Lecture

LEC17: David Kopf Lecture on Neuroethics: What Can Neuroscience Reveal About Human Values? — Winston Chiong

Location: WCC Hall D

Time: Tuesday, November 17, 2026, 10:30 AM - 11:30 AM

Session Sponsor: David Kopf Instruments

Intro/Close: *N. C. SPITZER;
UCSD, Del Mar, CA

Disclosures:

Moderator: *K. SATKUNENDRARAJAH;
Univ. of Miami, Miami, FL

Disclosures:

Featured Lecture: W. CHIONG;
Univ. of California, San Francisco, San Francisco, CA

Disclosures: W. Chiong: None.

Abstract: Continuing advances in AI pose a challenge to neuroscience: to articulate what is important and distinctive about human cognition. This lecture will draw on clinical observations and the cognitive neuroscience of disorders of the frontal and temporal lobes to illustrate the centrality of personal values in human decision-making. While such values have previously been considered topics just for philosophical theory, this lecture will propose approaches for empirical investigation into the mechanisms underlying these core aspects of human experience.

Grant Support: RF1AG083830
K24AG083117
R01MH137095

Lecture

LEC18: Special Lecture: Myelin Plasticity in Nervous System Development and Disease — David Lyons

Location: WCC Hall D

Time: Tuesday, November 17, 2026, 2:00 PM - 3:00 PM

Session Sponsor:

Moderator: *K. R. MONK;
Oregon Hlth. & Sci. Univ., Portland, OR

Disclosures:

Lecture: *D. LYONS;
Ctr. for Discovery Brain Sci., Univ. of Edinburgh, Edinburgh, United Kingdom

Disclosures: D. Lyons: None.

Abstract: Myelin, essential for nervous system formation and function, is damaged or lost in diseases that span neurodevelopmental disorders, neuropsychiatric conditions, through age-related neurodegenerative diseases. The speaker's group use zebrafish to study mechanisms of myelinated axon development, dynamic regulation in active neural circuits and disruption in disease. In this lecture, the speaker will show how discoveries in zebrafish revealed evolutionarily conserved mechanisms of myelin plasticity, relevant to the treatment of human conditions.

Grant Support: Wellcome Trust Senior Research Fellowship 214244/Z/18/Z
MS Society Edinburgh Centre for MS Research, award 133

Lecture

LEC19: History of Neuroscience Lecture: Beyond the Hebbian Synapse: A Brief History of the Cellular Substrates of Memory — David J. Linden

Location: WCC Hall D

Time: Tuesday, November 17, 2026, 3:30 PM - 4:30 PM

Session Sponsor:

Intro/Close: *N. C. SPITZER;
UCSD, Del Mar, CA

Disclosures:

Moderator: *C. D. AIZENMAN;
Brown Univ., Providence, RI

Disclosures:

Featured Lecture: *D. J. LINDEN;
Neurosci Dept, Johns Hopkins Univ., Baltimore, MD

Disclosures: D.J. Linden: None.

Abstract: If you ask a newly-minted neuroscientist which cellular mechanisms underlie memory storage in the brain, you're likely to hear about experience-dependent changes in synaptic strength and be shown a diagram of an excitatory synapse received on a dendritic spine. This story is well and true, but incomplete. In fact, nearly every electrical and metabolic function of neurons and glia can be persistently modified by experience and these plastic cellular processes all interact to create memory.

Lecture

LEC20: Presidential Special Lecture: Transcriptomes, Connectomes, and Neuromodulation — Mu-ming Poo

Location: WCC Hall D

Time: Tuesday, November 17, 2026, 5:30 PM - 6:45 PM

Session Sponsor:

Intro/Close: *N. C. SPITZER;
UCSD, Del Mar, CA

Disclosures:

Featured Lecture: *M.-M. POO;
Inst. of Neuroscience, Chinese Acad. of Sci., Shanghai City, China

Disclosures: M. Poo: None.

Abstract: Recent efforts in cell type identification and single-neuron connectome mapping of non-human primate (NHP) brains may facilitate circuit-specific modulation of brain functions and dysfunctions. Several outstanding issues remain: distinction between neuronal types vs. states, between mediating vs. modulating role of neurons, cause vs. effect within complex neural networks, and normal vs. abnormal brain functions. Progress in generating NHP models of disease phenotypes and the use of them for developing brain disease therapies will also be discussed.

Lecture

LEC21: Special Lecture: The Vagus Nerve: How the Brain Listens to the Body — Stephen Liberles

Location: WCC Hall D

Time: Wednesday, November 18, 2026, 9:00 AM - 10:00 AM

Session Sponsor:

Moderator: *K. M. FRANKS;
Duke Univ., Durham, NC

Disclosures:

Lecture: *S. LIBERLES;
Harvard Med. Sch., Boston, MA

Disclosures: S. Liberles: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; pending support from Roche, Novo Nordisk. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nilo Therapeutics, Kallyope. F. Consulting Fees (e.g., advisory boards); Nilo Therapeutics.

Abstract: The vagus nerve is a key instrument of the body-brain axis that controls vital functions of our respiratory, cardiovascular, digestive, and immune systems. It monitors our internal organs, drives behaviors to alleviate physiological need, and communicates with brain-body motor neurons to conduct a symphony of body biology. This lecture will describe recent advances using molecular and genetic approaches to deconstruct the vagus nerve. Defining body-brain communication mechanisms will uncover principles of neurophysiology and new ways to treat autonomic disease.

Grant Support: HHMI
NIH R01NS122767
NIH P01AI179273
NIH R01DC020593
Bill and Melinda Gates Foundation
Harvard Medical School, K. Lisa Yang Brain Body Center
Cancer Grand Challenges

Lecture

LEC22: Special Lecture: Hormonal Signaling and Physical Exercise: Building Cognitive Resilience Against Alzheimer's Disease — Fernanda G. De Felice

Location: WCC Hall D

Time: Wednesday, November 18, 2026, 10:30 AM - 11:30 AM

Session Sponsor:

Moderator: *T. IKEZU;
Mayo Clin. Florida, Jacksonville, FL

Disclosures:

Lecture: *F. G. DE FELICE;
Ctr. for Neurosci. Studies, Queens Univ., Kingston, ON, Canada

Disclosures: F.G. De Felice: None.

Abstract: This lecture will review the critical intersection of Alzheimer's disease, hormonal signaling, and physical exercise. Research from the De Felice Lab on the mechanisms that lead to defective hormonal signaling in the Alzheimer's disease brain will be presented. Integration of hormonal dysfunction with clinical observations will be considered. How lifestyle interventions, specifically physical exercise, drives cognitive resilience and hold the potential to preserve brain health and delay the progression of neurodegeneration will be discussed.

Grant Support: Canadian Institutes of Health Research 202104
Canada Research Chair in Brain Resilience (CRC 2023-00155
Canada Foundation for Innovation
Connected Minds Program
Canada First Research Excellence Fund, Grant #CFREF-2022-00010
IDOR/Pioneer Science Intramural Grant
CNPq/FAPERJ

Lecture

LEC23: Special Lecture: Illuminating Functions of the Choroid Plexus and Cerebrospinal Fluid System Throughout Life — Maria Lehtinen

Location: WCC Hall D

Time: Wednesday, November 18, 2026, 12:30 PM - 1:30 PM

Session Sponsor:

Moderator: *V. V. SAHNI;
Burke Neurolog. Institute, Weill Cornell Med., White Plains, CT

Disclosures:

Lecture: *M. LEHTINEN;
Boston Children's Hosp., Boston, MA

Disclosures: M. Lehtinen: None.

Abstract: The cerebrospinal fluid (CSF) has emerged as a vibrant topic in neuroscience. It delivers a complex cocktail of growth factors and nutrients to the developing brain. It also functions as an orchestrator of neuroimmune interactions and neurophysiology throughout life. Specific roles have emerged for the choroid plexus epithelium — the predominant source of CSF — in directing brain development and health. Here, the speaker also discusses how the system serves as an auspicious frontier for brain therapeutics.

Grant Support: NIH R01 NS 088566
NIH R01 NS129823
NIH R01 CA282477
Alex’s Lemonade Stand Foundation
Cure Alzheimer’s Fund
Hydrocephalus Association
Pediatric Hydrocephalus Foundation

Lecture

LEC24: Special Lecture: The Secret Life of Unmyelinated Axons — Shigeki Watanabe

Location: WCC Hall D

Time: Wednesday, November 18, 2026, 2:00 PM - 3:00 PM

Session Sponsor:

Moderator: *K. R. KAUN;
Brown Univ., Providence, RI

Disclosures:

Lecture: *S. WATANABE;
Johns Hopkins Univ., Baltimore, MD

Disclosures: S. Watanabe: None.

Abstract: The speaker will describe their recent discovery that unmyelinated axons exhibit a "pearls-on-a-string" morphology due to the mechanical properties of axonal membranes, and will discuss the implications of this finding for action potential propagation, organelle transport, and synaptic function.

Grant Support: NIH Grant NS132153
NIH Grant MH139350
Helis Foundation
The Vallee Foundation
Kleberg Foundation Medical Research