

1969–2019



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

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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.