2018 Basic-Translational-Clinical Roundtables

New Programming for Neuroscience 2018
This session is intended to serve as a platform where annual meeting attendees can learn about the history as well as the various arguments, research, and viewpoints surrounding a particular hot topic.

DUAL PERSPECTIVES: Gamma – Fumes or Fundamental

Organizer: Matthew L. Shapiro, PhD
Monday, Nov. 5, 1–2 p.m.
San Diego Convention Center: Room 10

Gamma (γ) oscillations (~20–100 Hz) are associated with sensory processing, cognition, memory, and attention. There is general agreement that γ oscillations represent potentially useful markers of local circuit dynamics but major debate about whether the oscillations themselves contribute to brain function. Two researchers, Vikaas Sohal and Jess Cardin, will argue for different sides of this debate. Do oscillations enhance specific functions of cortical circuits, or do they mainly provide insight into ongoing synaptic interactions among cells?

What We Know, What We Don't Know: How Can We Better Understand Alzheimer's Disease to Develop Effective Treatments? CME

Organizer: David M. Holtzman, MD
Sunday, Nov. 4, 8:30–11 a.m.
San Diego Convention Center: Room 10

Alzheimer's disease (AD) is the most common cause of dementia. Genetics, environment, and lifestyle likely contribute to the development of AD. Recent genetic data suggest a key role for glia in influencing AD. AD pathology can now be detected by assessing biomarkers in living people, and many promising treatments are in development. This session will review an update of the main molecules that play a role in AD and discuss the current understanding of AD, new diagnostic methods, and treatments.

Molecular Therapies for Neurological Diseases CME

Organizer: Frank Bennett, PhD
Monday, Nov. 5, 8:30–11 a.m.
San Diego Convention Center: Room 10

This roundtable will highlight spinal muscular atrophy (SMA) as an example of the progress being made in translating knowledge of the molecular basis of a disease to therapies that transform how the disease is managed. Topics to be discussed include SMA background, antisense, gene therapy, and small molecule approaches to treat SMA. In addition, lessons learned from these development programs will be discussed, highlighting how they translate to other neurological diseases.

Rapid Antidepressant Action: Synaptic Mechanisms and Clinical Aspects CME

Organizer: Ege T. Kavalali, PhD
Monday, Nov. 5, 1:30–4 p.m.
San Diego Convention Center: Room 30E

The discovery of rapidly acting antidepressant treatments has generated tremendous enthusiasm. Ketamine, a glutamate receptor antagonist, produces rapid and sustained antidepressant responses in patients. Deep brain stimulation has also shown promise for the treatment of depression. The mechanisms underlying rapid antidepressant responses provide novel perspectives into mood disorders and their treatment. This panel will discuss these novel treatments and the mechanisms underlying their action.

Neuroprosthetic Devices: A Patient's Perspective on Brain Computer Interfaces CME

Organizer: Florian Solzbacher, PhD
Tuesday, Nov. 6, 8:30–11 a.m.
San Diego Convention Center: Room 10

Patients will talk about their physical limitations and why they participated in time-intensive research for scientific knowledge. They will cover the challenges, breakthroughs, and difficult decisions that come with wearing a neuroprosthetic device. They will also speak to the benefits, despite trial and error methodologies and invasive surgeries, of participating in brain-computer interface (BCI) research, how it has changed their lives, and where they believe researchers should push the future of BCI technologies.