



NEUROSCIENCE
2014

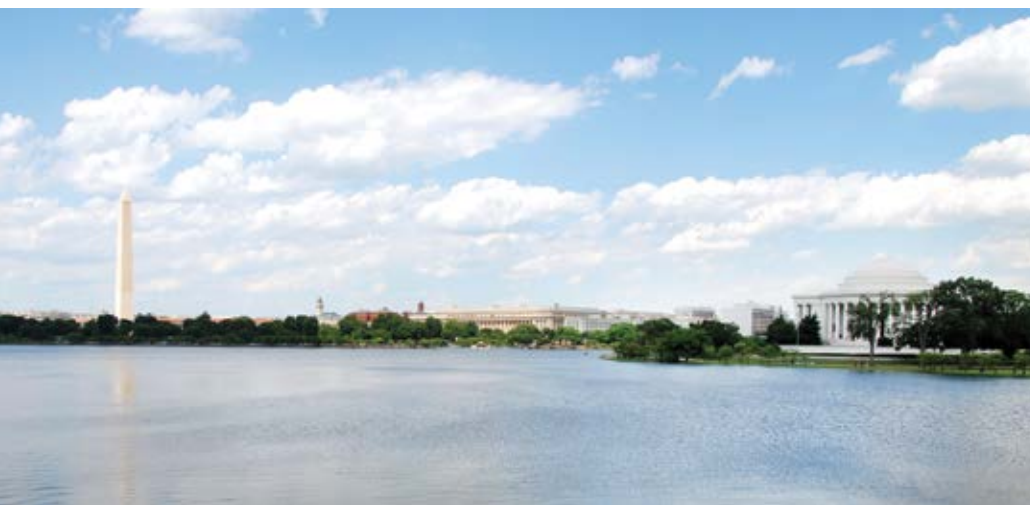
Meet your peers and discover great science — see you in DC for Neuroscience 2014!

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.