NUS National University of Singapore | Department of Biological Sciences, Faculty of Science

ON-SITE BIOLOGY COLLOQUIUM

Friday, 11 Dec 2026 | 4 pm | S3 05-02 Conference Room 1

Hosted by Assist Prof Phua Siew Cheng

Map to Block S3

The dynamic brain: Understanding the synaptic basis of behavior

Yi Zuo

University of California Santa Cruz



The ability to learn new skills and to adapt to an ever-changing environment is vital for survival. My lab aims to understand the neural basis of such abilities from the molecular to the circuit level, centering on the synaptic circuit. The synapse, a specialized site for connection between neurons, is the elemental structural and functional unit of the brain. Modifications of synaptic structure and function provide a cellular mechanism for learning and memory, while abnormal synaptic connections are hallmarks of many neurological and psychiatric disorders. My lab focuses on how experience affects neuronal circuitry through synaptic modifications, and explores cellular mechanisms underlying the structural changes of synapses under both physiological and pathological conditions.

About the Speaker

Yi Zuo is a Professor of Neuroscience at the University of California, Santa Cruz. Her laboratory studies how experience shapes neural circuits through synaptic remodeling and how these processes are altered in neurological and psychiatric disorders. Her research combines in vivo structural and functional imaging, mouse genetics, circuit manipulation, and behavioral analysis.

Zuo received her B.S. from Tsinghua University and Ph.D. in Neuroscience from Northwestern University, followed by postdoctoral training at New York University and the University of Texas at Austin. She joined UC Santa Cruz in 2007. Her honors include a Sloan Research Fellowship, an Ellison Medical Foundation New Scholar Award, recognition as a finalist for the Blavatnik National Award for Young Scientists, and a Max Planck Fellowship. She has also taught and co-directed advanced neuroscience imaging courses at MBL, MPFI, and CSHA.