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DISTINGUISHED SEMINAR

Assembly, Maintenance, and Plasticity of Glutamatergic Synapses

Lecturer: **Yimin Zou, Ph.D.**

Professor, Department of Neurobiology, School of Biological Sciences
University of California, San Diego



Date: Monday, 23 March 2026

Time: 17:00 - 18:00

Venue: Room 103•107
1F, Faculty of Medicine Bldg. A

Eligibility: Academic Researchers and Students

Register here



Synaptic connections are fundamental to neural circuits and behavior, and are regulated by sophisticated molecular signaling pathways.

However, the local signaling mechanisms that directly assemble glutamatergic synapses are not fully understood.

Our lab demonstrated that the highly conserved planar cell polarity (PCP) pathway, which creates asymmetric cell-cell junctions, is crucial for the formation and maintenance of most glutamatergic synapses in the hippocampus and cortex. It does so by physically interacting with key presynaptic active zone proteins, postsynaptic density proteins, and glutamate receptors. We also found that the PCP pathway is a direct target of amyloid- β -induced synapse degeneration and mediates synapse recovery triggered by the antidepressant ketamine. I will present updates on how the PCP pathway assembles the glutamatergic synapses and regulates their plasticity, and a new organizational principle of signaling systems in glutamatergic synapses..

Hosted by Institute for the Advanced Study of Human Biology (WPI-ASHBi)

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