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"Transcribing Memories: Encoding of Contextual Memories by Transcriptionally-defined Active Neuronal Ensembles"

Prof Yingxi Lin
Brain and Cognitive Sciences Department,
Massachusetts Institute of Technology

Date : 6 April 2018
Time: 2:30pm to 4:00pm
Venue: Meeting Room 2-130, 1/F, Block 2, To Yuen Building

Abstract

How are transient experiences converted into long-lasting memories? How do experiences modify behaviors? How do similar experiences elicit drastically different behavioral responses in the healthy and disease states? The key to answering these important questions is to understand how sensory information is processed and stored in the brain. My research aims to address these questions at the molecular and cellular level, by exploring the mechanisms by which experiences are coupled to synaptic modifications of neural circuits that lead to long-term behavioral changes. This is made possible by combining a very wide range of experimental techniques: generating molecular tools to genetically identify the ensembles of neurons in the brain that are activated by a specific sensory and behavioral experience, detecting the learning-induced synaptic changes on the ensemble neurons, dissecting the molecular pathways responsible for the synaptic modulation, and understanding how the ensemble neurons contribute to the neural computations underlying learning and memory. My talk will focus on the progress we have made in understanding the mechanisms underlying contextual memory formation in the hippocampus.

Biography

Prof Yingxi Lin, who joined the McGovern Institute in 2008, is an associate professor in the Department of Brain and Cognitive Sciences at MIT. Originally from China, she received her bachelor's and master's degrees from Tsinghua University and her Ph.D. in biophysics from Harvard University. Prior to joining the McGovern Institute she was a postdoctoral fellow at Harvard Medical School and Children's Hospital Boston. She was named a John Merck Scholar in 2010.

Enquiry:
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All are welcome !