

225th WPI-IIIS Seminar

Cognitive and Behavioral Neuroscience Seminar

Neural Circuit and Cellular Basis of Perception and Memory Consolidation

Since 2010, my laboratory has been investigating the mechanisms of somatosensory perception and its memory consolidation using systems neuroscience approaches. In this talk, I will first present some of our previous findings and then focus on our recent study, which demonstrates how emotion enhances memory. It is hypothesized that activation of the amygdala by emotional stimuli enhances memory consolidation in its downstream brain regions. However, the physiological basis of the inter-regional interaction and its functions remain unclear. Here, by adding emotional information to a perceptual recognition task that relied on a frontal-sensory cortical top-down circuit in mice, we demonstrated that the amygdala not only associates emotional information with perceptual information but also facilitates perceptual memory consolidation. Our findings further show that this enhancement is supported by amygdala-driven inter-regional reactivation during NREM sleep. I will also introduce ongoing projects in the lab and look forward to discussing them with you.



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Date: **Friday, May 16, 2025**

Time: **15:15 – 16:15**

Venue: **1F Auditorium, IIIS Building**

*** On-site participation only**



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