

Speaker: Elizabeth Hong

Title: Origins of structured representations of odor in the fly mushroom body

Abstract: Olfactory inputs to the brain are organized into distinct sensory coding channels, each defined by its corresponding odorant receptor (OR) protein. Natural odors almost always activate many ORs, and a fundamental challenge for olfaction is to understand the functional logic by which olfactory inputs are integrated in the brain. The *Drosophila* olfactory system shares a similar overall circuit organization to its vertebrate counterpart, but with significantly reduced numerical complexity, making it a useful system for investigating the logic of chemical coding. I will discuss our work combining functional imaging with new insights from the connectome to investigate the structure of odor representations in the insect mushroom body, a major brain region mediating learning and other adaptive olfactory behaviors.