

# PhD DEFENSE



**Mr Bu Shufeng**

*Dr Yu Fengwei Group*

**28 Sep 2022, Wed  
11am**

**The Auditorium**



*\*Scan for location*

**All Are Welcome!**

## **A systematic study of microtubule regulators in dendrite pruning of *Drosophila* ddaC neurons**

Neuronal pruning, a process to remove unnecessary dendrites/axons, is an essential developmental step of the nervous system as its dysregulation highly correlates with various neurological disorders. In *Drosophila* PNS, the ddaC neurons which specifically prune away their dendrites during metamorphosis, is an important model system to unravel the regulatory mechanisms of neuronal pruning. In the first part of my thesis, I reported 2 microtubule disassembly factors that are required for dendrite pruning of ddaC neurons: Exchange factor for Arf6 (Efa6) and Stathmin (Stai). Utilizing both genetic and pharmacological approaches, I suggested a causal relationship between microtubule disassembly and dendrite pruning. In the second part, I focused on Orbit/CLASP which was isolated in a forward genetic screen as a novel regulator of dendrite pruning. Mechanistically, I reported Orbit regulates both microtubule orientation and pruning of ddaC dendrites via suppressing Par-1 kinase.