

# 156<sup>th</sup> WPI-IIIS Seminar

## Cell-type-specific patterned activities specify gene expression patterns for olfactory circuit formation -Neurons that fire in the same pattern wire together-

The development of precise neural circuits is initially directed by genetic programming and subsequently refined by electrical neural activity. The most prevailing model for the activity-dependent development of neural circuits postulates the interaction between pre- and post-synaptic neurons. In Hebbian plasticity, the correlated activity of pre- and post-synaptic neurons strengthens synaptic connections, whereas uncorrelated or lack of activity weakens them. However, the olfactory map develops even in mutant mice lacking synaptic partners, suggesting another mechanism for the olfactory map formation. In this seminar, I would like to propose a novel activity-dependent mechanism in which cell-type-specific patterned activity contributes to the olfactory map refinement through orchestrating gene expression of various axon-sorting molecules.



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Date: **Monday, August 19, 2019**

Time: **12:00 – 13:00**

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



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