

Lecture 16: Friday, July 13

Mechanisms of synapse remodeling and maintenance

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Neural circuits are dynamic, with activity-dependent changes in synapse connectivity and synapse density peaking during different phases of animal development. In *C. elegans*, locomotor circuit undergoes a dramatic connectivity switch in larval development. Operation of this circuit throughout adult life also requires balanced excitation and inhibition. Using forward genetic screens in combination with live imaging, our studies have revealed intricate interactions of multiple pathways operating in the nucleus and at the levels of axon transport and synapses. This talk will address how temporally distinct signaling pathways coordinate during neural circuit refinement and maintenance. Additionally, I may also cover pathways involved in axon regeneration in adult nervous system.