DEPARTMENT OF BIOLOGY | UNIVERSITY of WASHINGTON

Biology Seminar

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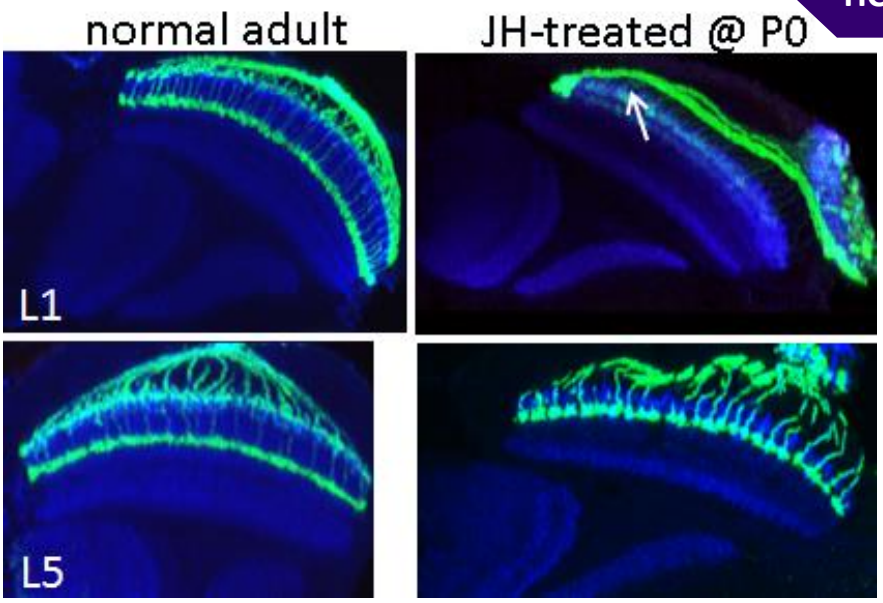
Regulation of *Drosophila* visual system development by juvenile hormone

Monday, October 30, 2017 | 12:00pm
HCK 132 Refreshments at 11:45am



Metamorphosis of the fruit fly *Drosophila melanogaster* is regulated by two hormones, ecdysone and juvenile hormone (JH). The developing eye and optic lobe (OL) present a unique challenge to this hormonal control because the eye forms progressively over a two day period and the resulting wave of photoreceptor ingrowth directs a corresponding wave of neural organization to the underlying OL. These waves of development occur during phasic pulses of both ecdysone and JH. At the outset JH is necessary to prevent precocious development of the OL caused by ecdysone that initiates pupariation. Its continued presence however influences the adult development of some OL neuron cell types in terms of when they turn on adult-specific enhancers or turn off larval-specific enhancers. All lose their sensitivity to JH by 24 h after pupariation at the onset of adult development. JH during the critical period prevents the normal appearance of the ecdysone receptor in these OL neurons which accounts for some of the anomalies seen.

Seminar Speaker Hosts: Tom Daniel & Barbara Wakimoto