



### Speaker:



Naoki Yamanaka, Ph.D.  
Professor, Department of Entomology,  
University of California, Riverside

**Date:** Monday September 30, 2024  
**Time:** 4:00 pm - 4:50 pm  
**Format:** In-Person Seminar & Virtual Access  
**Location:** Genomics Auditorium 1102A  
**Zoom:** 952 1906 3064  
**Passcode:** 505445

**Title:**  
*"Serendipitous Finding of a Potent Inhibitor of Insect Steroidogenesis"*

### Abstract:

The primary insect steroid hormone ecdysone induces molting and metamorphosis through its interaction with intracellular nuclear receptors. Although it has long been assumed that steroid hormones can enter their target cells by simple diffusion, we recently demonstrated that a membrane transporter named Ecdysone Importer (Ecl) is required for cellular incorporation of ecdysone, making it an ideal molecular target for developing novel types of insect growth regulators. In the course of searching for chemical compounds that can block Ecl functions, we found a compound that can strongly inhibit molting and metamorphosis in fruit flies. Further investigation of the mode-of-action of this compound, however, revealed that it is blocking ecdysone production in the endocrine organ, rather than blocking ecdysone entry into peripheral tissues through Ecl. I will present the most recent results of our study and discuss potential implications of our findings.