

Joint Seminar Program for the Departments of Biochemistry, Microbiology & Immunology and PRISM Research Centre

Wed October 25, 2017 12:30-1:30

Room GB03 Health Sciences Building

Jack Gray, PhD

Vice-Dean Research, Scholarly & Artistic Work, Arts & Science, U of S



TITLE: “Insights from a tiny mind: Fundamental and practical insect neurobiology”

ABSTRACT: Insects are one of nature’s ideal systems for understanding principles of how animals sense and interact with their environment. They possess tractable nervous systems that evoke and control robust, predictable behaviours. Using traditional and advanced recording techniques, researchers can address fundamental questions regarding sensory processing and coordination of motor outputs that underlie adaptive

behaviours. The use of ubiquitous neurotransmitter systems that convey information throughout the insect’s neural circuits further allows us to address questions related to environmental toxicity and how low doses of pesticides affect neural function and behaviour. I will describe experiments in our lab that incorporate these aspects of insects as model systems to address multiple questions. We use the well-described locust flight system to study visual detection of approaching objects and how collision avoidance behaviours are produced. We also study how sub-lethal doses of a neonicotinoid insecticide disrupt visual motion detection and impair avoidance behaviour.

Everyone Welcome