



# ses

school of environmental sciences

The Research Seminar Presentation by

**Tara Celetti**

will be held on

**Tuesday November 24, 2015**

**At 10:00 am**

**ALEXANDER HALL 337**

**Title: Developing standardized semi-field methods to assess risk of pesticide exposure on *Bombus impatiens* Cresson**

### Abstract

Data for honey bee (*Apis mellifera* L.) risk assessment are required by regulatory agencies for pesticide regulation and re-regulation. Due to pronounced differences in morphology and life-history traits, there is a growing concern that other bee species, particularly bumble bees, respond differently to pesticide exposure. The common eastern bumble bee (*Bombus impatiens* Cresson) is widely distributed across Ontario and Atlantic Canada. It is commercially available, often used in greenhouses to facilitate tomato and pepper pollination, where they are routinely exposed to pesticides. As *B. impatiens* is increasingly being used to pollinate other crops, including low and high bush blueberries, there is a need to incorporate bumble bees into the pesticide regulatory process. Risk assessments is a tiered process, Tier I involves identifying LD50 in the lab. If a sufficient risk is found, the pesticide will be subject to Tier II testing which involves semi-field trials to provide an element of control, through confining the bees to an enclosure on a particular flowering plant, yet allows the colony to forage as normal. The goal is to characterize the effects of two insecticides (dimethoate and fenoxycarb) and determine which colony stage, early or late, is most susceptible to these insecticides. This will provide valuable information on both lethal and sub-lethal effects of a given pesticide that will mitigate exposure of bumble bees to those pesticides that are deemed harmful.

**Everyone is welcome to attend**

**(This is a Research Proposal presentation by students in ENVS\*6900)**