

WESTERN SYDNEY UNIVERSITY



Hawkesbury Institute
for the Environment

INSECT POLLINATION OF CROPS

The Hawkesbury Institute for the Environment (HIE) is a research institute within Western Sydney University. HIE has rapidly become a research leader in environmental and ecological research, with a strong reputation for delivering research outcomes of the highest quality. HIE houses a team of over 50 academic research scientists and over 50 PhD students with access to a unique suite of world-class research facilities.

We are seeking a highly motivated PhD candidate to study insect pollinators and crop pollination as part of our major new research project, "Healthy bee populations for sustainable pollination in horticulture", co-funded through Horticulture Innovation Australia's "Pollination Plus" program. The overall project explores the diversity and roles of pollinators in cropping landscapes, and potential threats to pollinator populations from floral resource shortages, climate change, diseases and land management.

This PhD will focus on: 1) characterizing pollinator communities in cropping landscapes, using field studies and both morphological and molecular (DNA barcoding) taxonomy; 2) insect pollination of selected crops using manipulative experiments; and 3) studying bee foraging behavior and how this influences patterns of crop pollination in orchards. The project is suitable for a candidate with strong interests and preferably research experience in subjects such as entomology, animal behavior, genetics, ecology or conservation.

Applicants should be enthusiastic and highly motivated to undertake further study at an advanced level. A strong background in ecology and/or animal behavior, and a keen interest in entomology are required. A valid driver's licence, and willingness to travel and work in off-campus field sites are also required.

The student will be based at HIE at the University's Hawkesbury Campus in Richmond, NSW and will join a large and diverse cohort of scientists at all career levels. The student will learn a variety of techniques (in field and laboratory) to sample and describe pollinator communities, assess pollination of crops and characterize bee behaviour. The PhD program will also develop the candidates statistical, analytical and communication skills, and involve collaboration with the wider Pollination Project team and our industry partners.

WHAT DOES THE SCHOLARSHIP PROVIDE?

- » Domestic students will receive a tax free stipend of \$26,682 per annum and a funded place in the doctoral degree.
- » International students will receive a tax free stipend of \$26,682 per annum. Those with a strong track record may receive a fee waiver.
- » Funding is available for project costs and conference travel.

CRITERIA

We welcome applicants from a range of backgrounds, who are keen to apply their skills to key issues in environmental biology. In particular, the project is suitable for candidates with strong interests and previous experience in entomology, ecology and/or animal behaviour. The successful applicant should:

- » hold qualifications and experience equal to an Australian First Class Bachelor Honours degree, coursework Masters with at least a 25% research component, Research Masters degree, or equivalent overseas qualifications
- » demonstrate strong academic performance in subjects relevant to ecology, animal behaviour and entomology
- » have an understanding of the importance of pollination services and threats to pollinator populations
- » be willing to learn, modern sampling and analytical techniques applicable to insect community ecology (e.g. microscopy and DNA Barcoding), pollination (e.g. pollen analysis), and insect behavior (e.g. controlled field experiments)
- » be enthusiastic and highly motivated to undertake further study at an advanced level
- » International applicants must also demonstrate a high level of proficiency in the English language. Please refer to the English language requirements at www.westernsydney.edu.au/international/home/admissions/entry_requirements

HOW TO APPLY

- » Applicants should discuss their eligibility and interests with Prof James Cook james.cook@westernsydney.edu.au
- » Contact the Graduate Research School at grs.scholarships@westernsydney.edu.au.
- » Please submit an application form, CV, names and contact information of two referees, and a one-page document stating how your research interests align with the project's aims.

Closing date: 21 July 2017

- » The application form can be downloaded: www.westernsydney.edu.au/graduate_research_school/grs/scholarships/current_scholarships