

PhD Project – Keeping cool in a warming world

Commencing 2023

Supervisor: Professor Devi Stuart-Fox
The University of Melbourne



<https://findanexpert.unimelb.edu.au/profile/155120-devi-stuart-fox>

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Are you interested in strategies used by insects to keep cool? Do you enjoy fieldwork and laboratory experiments with animals? This PhD project will investigate the thermodynamics of beetle species with different reflective properties, and in different environments. The project is supervised and fully funded and supported by Prof Devi Stuart-Fox and collaborators. We are a supportive, diverse, well-resourced lab, and we have fun while doing good science 😊. The student would be based in the School of BioSciences at the University of Melbourne with scope to collaborate more widely.

Project Description

How do the optical properties of beetles (sunlight absorption, infrared properties) affect thermodynamics in the wild? Beetles could prevent overheating by efficiently reflecting sunlight and dissipating heat, but this depends on behaviour and microhabitat, and we have very little knowledge of insect thermodynamics in the wild. This project will combine field work on Christmas beetles and jewel beetles, with laboratory experiments and biophysical modelling. Techniques include field observations, behavioural experiments, thermal imaging and spectrometry. The student will be an integral part of the team and will have the opportunity to develop their own research interests throughout their PhD.

Location

The University of Melbourne is situated just north of central Melbourne, and is surrounded by good restaurants, bars, cafes. Melbourne always has something to see or do, including great food, music, theatre, or sport. You will have the opportunity to see what Melbourne has to offer with the supportive team of students, postdocs and academics that you will join. The School of BioSciences hosts a vibrant, diverse research community and provides access to cutting edge equipment.

Requirements

The successful applicant will be assisted in applying for a [Graduate Research Scholarship](#) through the University of Melbourne. These awards are competitive, so a First-class Honours or Masters Degree (or equivalent) is essential.

To apply, please email me by **15 September** briefly outlining your research interests and attach **1)** a CV with contact details for two referees (including a research supervisor) and **2)** your academic transcript/grades. Scholarship applications are due 30th September, so it is essential that we meet to discuss options well before the application deadline.

Any questions or for further information, please contact Devi Stuart-Fox, d.stuart-fox@unimelb.edu.au