

PhD Opportunities in Fire Ecology

The Fire Ecology and Biodiversity Group at the University of Melbourne is offering three PhD projects within two research programs:

Fire management for biodiversity conservation in fragmented landscapes (ARC Linkage, two projects available)

Species living in fragmented landscapes face multiple threats, including fire. For example, the inappropriate use of fire may reduce habitat suitability and restrict faunal movement, increasing the risk of local extinction. In theory, however, fire can also be used to enhance movement capacity, both for individuals and for genes, resulting in improved conservation outcomes. A key knowledge gap is how fire should be applied spatially to achieve this end.

Aim To determine the spatial arrangement of fires that maximise habitat suitability, movement capacity and gene flow across flammable fragmented landscapes.

Study area Fragmented heathy woodlands of southeastern Australia.

A range of modelling techniques will be applied to field and genetic data from mammals, reptiles and invertebrates. Depending on interest, candidates will have flexibility to develop field-focused or modelling-focused research.

Fire, spatial pattern and biodiversity (one project available)

In flammable ecosystems managers can use fire to increase spatial variability in habitat conditions, a strategy often assumed to benefit biodiversity. Nevertheless, the positive association between fire-generated habitat variability and biodiversity is not always apparent, and its influence on faunal processes such as movement, habitat selection, and biotic interactions (e.g. predation) remain unclear.

Aim To determine the influence of fire-generated habitat variability on faunal biodiversity and species-specific processes.

Study area Otway Ranges, Victoria.

Building on an existing data set, this project will involve a combination of field work and statistical modelling. Within the scope of the existing research framework, candidates will have the flexibility to develop projects based on interest and skills.

We are committed to supporting PhD students by providing: an experienced supervisory team, a collaborative research environment, field work support, project operating expenses, computing resources and a top-up scholarship of \$21,000 (\$7,000/year).

The projects will run between 2017-2020 and are based at the Creswick campus. Successful candidates will be expected to obtain an Australian Postgraduate Award or equivalent. Information about applying for scholarships at the University of Melbourne can be found here:

<http://services.unimelb.edu.au/scholarships/research/local/available>



Applicants should send a written expression of interest, including CV and statement of results, to Dr Julian Di Stefano juliands@unimelb.edu.au by 30 September 2016. Julian can also be contacted with any enquiries.

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