



MONASH University



AUSTRALIAN CENTRE FOR BIODIVERSITY
ANALYSIS POLICY MANAGEMENT

PhD scholarship - Carbon cycling of revegetated agricultural landscapes under a dry climate

Monash University, AU\$ 26,669 p.a., 3 years full-time

South-eastern Australia is predicted to be substantially drier in the coming decades, potentially driving extensive land-use change in agricultural landscapes. As traditional agricultural practices become less viable, growing trees for carbon storage, water quality and biodiversity benefits will become increasingly common. An opportunity exists at the Australian Centre for Biodiversity, Monash University for a PhD candidate to undertake novel interdisciplinary studies on specific aspects of these complex biological systems.

The project investigates how revegetation and a dry climate will affect carbon cycling through a novel combination of field surveys, long-term flux observations, *in situ* manipulations, controlled environment experiments and laboratory analyses. The PhD is part of a broader Australian Research Council-funded Linkage project to understand how extensive revegetation will affect carbon storage, water yields and biodiversity of catchments (www.biolsci.monash.edu.au/research/acb/carbon). It brings together a research team with expertise in micrometeorology, forest ecology, soil processes, terrestrial ecology, landscape modelling, freshwater ecology and landscape economics.

We are seeking a highly motivated and enthusiastic student with a strong interest in ecosystem ecology, particularly the role of soils, and experience in agricultural science, plant ecology/physiology, micrometeorology, chemistry or similar area. Experience with fieldwork, chemical analyses and /or modelling would be an advantage.

This is an excellent opportunity to establish a career in the interdisciplinary area of global change science. Potential areas of research for the PhD candidate include carbon cycling (stocks and flows) within and among the soil, vegetation and atmosphere; soil microbes and respiration; and, exchanges of non-CO₂ greenhouse gases. The project could involve exploring different measurement techniques and modelling approaches.

The full-time position will start in early 2010 and be based at Monash University with fieldwork in the Goulburn-Broken Catchment, Victoria.

A first class honours (or equivalent, e.g. research Masters) undergraduate degree in a relevant discipline is required. This scholarship is open to both Australian and overseas applicants. Applicants should submit a brief statement of their desire and capability to undertake this research project, a current curriculum vitae, academic transcripts and contact details for two referees. To submit applications or for additional information please contact Dr Shaun Cunningham (shaun.cunningham@sci.monash.edu.au)