

Subject: PhD OPPORTUNITY - nitrogen cycling in Australian forest under elevated CO2

The Hawkesbury Institute for the Environment (HIE) is one of four institutes within Western Sydney University. HIE is a research leader in ecosystem function and environmental responses to changing climate. HIE holds a unique suite of world-class research facilities and houses a team of over 50 scientists: www.westernsydney.edu.au/hie

A scholarship is available for a highly motivated PhD student to contribute to a new Australian Research Council Discovery project on the responses of mature native Eucalypt forests to elevated CO2. This multidisciplinary project asks how changes in ecosystem N balance occur, by investigating if leaf N declines under enriched CO2 directly due to the balance of plant activity versus changes in soil N availability. The research will utilise the EucFACE (Eucalypt Free Air CO2 Enrichment) experiment. EucFACE is the world's only Free Air CO2 Enrichment experiment in mature native forest: www.westernsydney.edu.au/hie/facilities/EucFACE.

The aim of the PhD project is to investigate the processes involved in changing soil N availability. Various concurrent mechanisms can change ecosystem N availability in under elevated CO2, with feedbacks for primary productivity. This diversity of mechanisms has prevented clear explanation of long-term patterns of N availability responses. Also, the study of these processes has taken place in systems where trees are still in growing phase, limiting the scope of the findings.

The PhD student will be based at HIE, in Sydney, and will be expected to conduct a combination of field and controlled environment studies utilizing stable isotope tracing and modeling. The student will join a large and diverse cohort of scientists at all career levels currently working at EucFACE.

Applicants should discuss their eligibility and interests with Dr Yolima Carrillo +61 (02) 4570 1494 or via email at y.carrillo@westernsydney.edu.au

More details on the position and how to apply are included in the official flyer:
www.westernsydney.edu.au/hie/opportunities/advertisements/hdr_scholarship_in_nitrogen_under_elevated_co2

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