PhD SCHOLARSHIP OPPORTUNITIES
AUSTRALIAN PROTEACEAE – MINERAL NUTRITION PROJECT

PhD scholarships are available to work on a cutting-edge project on mineral nutrition of Australian Proteaceae species at the University of Western Australia in Perth.

Australian Proteaceae species are well adapted to living in low-phosphorus (P) acidic soils common to Australia. Some Proteaceae species that typically inhabit low-P acidic soils and avoid calcareous soils, can exhibit calcium toxicity when exposed to these calcium rich soils. The phenomenon of calcium toxicity has been known for decades, but no clear mechanistic explanation is available. We propose that calcium toxicity arises in Proteaceae because, unlike most dicots that store P in epidermal cells, these P-efficient plants store P in mesophyll cells, where calcium is also stored, leading to precipitation of P. Conversely, we hypothesise that calcium toxicity is avoided in soil-indifferent Proteaceae species by shifting accumulation of calcium from mesophyll cells to epidermal cells so as to prevent interference with efficient P utilisation.

We are looking for highly motivated Australian or international PhD students to work on a project, which has a fieldwork component as well as glasshouse-based experiments, where physiological or molecular skills or electron microscopy expertise are essential. Since we anticipate several students to work on various aspects of this project, interested students need not have all the skills listed above.

Australian citizens or residents should apply for an Australian Postgraduate Award in the first round in 2013; if successful, a top-up will be provided to work on the above project. For further information on Australian Postgraduate Award: http://www.scholarships.uwa.edu.au/search?sc_view=1&id=341&page=1&q=Australian+Postgraduate+Award&s=1&old_key=0 ;

International students should apply for an International Postgraduate Scholarship at: http://www.scholarships.uwa.edu.au/search?id=454. If successful, a top-up will be provided to work on the above project. If international students secure a Scholarship for International Research Fees, a standard living allowance will be made available to work on the above project. For details: http://spe.publishing.uwa.edu.au/latest/scholarships/postgraduate/sirf.

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