

**Chilean Bicentennial Scholarship Fund and the School of Plant Science,
University of Tasmania**

The School of Plant Science (<http://fcms.its.utas.edu.au/scieng/plantsci/index.asp>) specialises in several areas of research which may be of interest to applicants for the second round of Chile's "Bicentennial Scholarship Fund" (<http://www.becaschile.cl>).

1. Tree breeding, biotechnology and forest biology

We specialise in the breeding and genetics (biotechnology/wood properties) of the two major commercial eucalypt species grown in Chile, *Eucalyptus globulus* and *Eucalyptus nitens*

<http://fcms.its.utas.edu.au/scieng/plantsci/cpage.asp?ICpageID=88>

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as well as general silviculture and forest biodiversity management and ecology through our links with the CRC for Forestry <http://www.crcforestry.com.au/>

Contact: Professor Brad Potts (b.m.potts@utas.edu.au)

Assoc. Professor René Vaillancourt (R.Vaillancourt@utas.edu.au)

2. *Nothofagus* and southern conifer evolution and physiology.

We are involved in exciting research on what characteristics drive the evolutionary success and failure of major groups of plants. The distinctive conifers of Australia, South America and the Pacific are key to these changes, and we have very active research into the physiology, fossil record and evolution of these plants. We are also

involved in similar research on two important groups of southern hemisphere flowering plants, especially Proteaceae and *Nothofagus*.

Tasmania is one of the main centres of diversity of the ancient members of all these groups of plants.

<http://fcms.its.utas.edu.au/scieng/plantsci/researchareasdetails.asp?ISchoolResearchAreaID=63>

Contact: Dr Greg Jordan (Greg.Jordan@utas.edu.au)

3. Climate change and carbon issues

The University of Tasmania is a world leader in the investigation of climate change impacts on terrestrial ecosystem functioning. We have an unparalleled range of experimental facilities for researching the impacts of global warming and rising carbon dioxide concentrations on plants and ecosystems. We also do world-class research into the terrestrial carbon cycle and how environmental factors influence carbon sequestration.

http://www.utas.edu.au/docs/plant_science/ps/ps/face.html

Contact: Dr Mark Hovenden (Mark.Hovenden@utas.edu.au)

4. Hop (*Humulus lupulus*) and *Acacia* breeding and biotechnology

The cones of female hop plants are important to the brewing industry as they contain the resins and essential oils that impart bitterness and aroma to beer. The hop plant also possesses a number of unique chemicals that have the potential to be developed into phytochemicals. The Australian hop breeding program relies on the development

of polyploids. In collaboration with the Hop Products Australia we investigate ways in improving hop for the brewing and emerging industries, using technologies such as quantitative genetics, chemical analyses, plant tissue culture, ploidy manipulation, flow cytometry, genomics, proteomics and metabolomics. Several species of Australian *Acacia* are of high commercial importance in tropical to temperate regions. In conjunction with researchers in Australia and Vietnam, we are using some of the above-mentioned technologies in polyploid breeding strategies for *Acacia* improvement, including the generation of sterile triploids.

Contact: Associate Professor Anthony Koutoulis (anthonyk@postoffice.utas.edu.au)

5. Landscape ecology

Australia has unparalleled opportunities to understand the ecology, history and evolution of landscape fire given continental-scale environmental gradients, a matrix of flammable eucalypt forest and fire-sensitive rainforests and a long history of anthropogenic burning. A wide variety of techniques are used to understand landscape-scale fire ecology using field survey, wildlife habitat analysis, dendrochronology, stable isotope analyses, remote sensing and geographic information system analyses, reconstruction of fire histories from fire scars and lake sediments using continental Australia and Tasmania as model systems. The School of Plant Science has collaborative projects with many Australian and international labs providing a broad cross-section of expertise, resources and access to field sites throughout Australia.

Contact: Professor David Bowman david.bowman@utas.edu.au

Deadlines for applications in Chile

1. Postdoctoral research
(<http://www.becaschile.cl/becas/detalle/postgrado/postdoctorado>):
Applications close on 03 March 2009;
2. Research stays at the University of Tasmania by your own Ph.D. students
(http://www.becaschile.cl/becas/detalle/postgrado/pasantia_doctoral):
Applications close on 03 March 2009;
3. Ph.D. research at UTAS by academics, researchers, and recent graduates from your Faculty (<http://www.becaschile.cl/becas/detalle/postgrado/doctorado>):
Applications close on 10 December 2008; and
4. Masters (by research and/or coursework) at UTAS by academics, researchers, and recent graduates from your Faculty
(<http://www.becaschile.cl/becas/detalle/postgrado/magister>): Applications also close on 10 December 2008.

