

# International Graduate Course on Ecophysiology of Plant Soil Interactions

Parque Katalapi,  
Región de los Lagos, Chile  
January 9-17, 2014



*Katalapi temperate rain forest*

## Organizers

Luis J. Corcuera (Universidad de Concepción, Chile)  
Hans Lambers (UWA, Australia)  
Alejandra Zúñiga (Universidad Austral de Chile)  
Marjorie Reyes (Universidad de La Frontera, Chile)

## Invited Lecturers)

Jaume Flexas (Spain); Michael Shane (Australia);  
François Teste (Australia); Rafael Oliveira (Brazil);  
Dante Pinochet (Chile); Nicolás Franck (Chile);  
Manuel Pinto (Chile); Frida Piper (Chile)

**Registration fee:** Students (US\$350; 180000 Ch pesos). Professionals: US\$700; 350000 Ch pesos). This fee includes food, lodging, and course materials.

**Registration information:** contact Luis J. Corcuera at [luis.corcuera@parquekatalapi.cl](mailto:luis.corcuera@parquekatalapi.cl) or visit the web page <http://www.parquekatalapi.cl>; Telephone 56-41-2203586 or mobile phone 92490228

**Application deadline: October 31, 2013**

**Course Description:** This intensive theoretical-field graduate course spans over 9 days. It includes lectures, seminars, and practical classes in the field. The course will use the facilities of Parque Katalapi, located in Carretera Austral, X<sup>th</sup> Region, Chile. This course is designed as an intensive immersion experience. It requires stamina, endurance, social skills, and persistence. The course will be centered on theoretical and practical aspects of soils and root ecophysiology.

**Course requirements:** Students are required to have completed at least one basic plant physiology course. Since some of the lectures and seminars will be in English, students must manage this language with good level of understanding and oral expression.



*Embothrium coccineum* (Proteaceae) with abundant cluster roots from Chilean Patagonia

## Topics of the course

1. The complexity plant soil interactions
2. Root structure, development, and evolution
3. Origin and importance of soil
4. Soil types and properties: plant adaptations
5. Root and soil respiration
6. Stable isotopes and root ecology
7. Root interaction with other organisms
8. Root pressure and water transport
9. Nutrient absorption and transport
10. Root adaptations to low-P -soils
13. Roots and salinity
14. Roots and heavy metals
15. Mycorrhizae
15. Nitrogen fixation

16. Waterlogging, aeration. and radial oxygen transport
17. Root/shoot interactions
18. Water stress in roots and shoots
19. Whole plant carbon balance
20. Plant Hydraulics
21. How to prepare a manuscript for publication
22. Seminars
23. Students projects

## Sponsors

- Departamento de Botánica, Facultad de Ciencias Naturales y Oceanográficas; Escuela de Postgrado, Universidad de Concepción, Concepción.
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- Departamento de Ciencias Químicas y Recursos Naturales Facultad de Ingeniería, Ciencias y Administración, Universidad de La Frontera, Temuco



*Young cluster root of E. coccineum, grown on organic soil*

<http://www.parquekatalapi.cl>

