

# International Graduate Course on Root Ecophysiology

Parque Katalapi,  
Región de los Lagos, Chile  
January 11-20, 2012



*View of Parque Katalapi*

## Organizers

Luis J. Corcuera (Universidad de Concepción)  
Alejandra Zúñiga (Universidad Austral de Chile)  
Enrique Peñaloza (Universidad de Concepción)

## Invited Lecturers

Tim Colmer (Australia)      Hans Lambers (Australia)  
Rafael Oliveira (Brazil)    Dante Pinochet (Chile)  
Manuel Pinto (Chile)

**Registration fee:** Students (US\$325; 150000 Ch pesos). Professionals: US\$700; 320000 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

## Registration deadline: October 30, 2011

**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.



*Exudation of organic acids in Lupinus albus cluster roots*

## Topics of the course

1. What is a root? When and why did roots evolve?
2. The complexity of the rhizosphere
3. Origin and importance of soil
4. Soil types and properties: root adaptations
5. Geotropism, hydrotropism
6. Root respiration
7. Stable isotopes and root ecology
8. Root development
9. Interaction with other plants and herbivores
10. Root pressure and water transport
11. Nutrient absorption and transport
12. Root adaptations to low-P -soils
13. Roots and salinity

14. Mycorrhizae
15. Nitrogen fixation
16. Waterlogging
17. Root aeration and radial oxygen transport
18. Root/shoot interactions
19. Roots and water stress
20. Roots and carbon balance
21. Root biotechnology
22. How to prepare a manuscript for publication
23. Seminars
24. Students projects

## Sponsors

- Departamento de Botánica y Escuela de Postgrado, Universidad de Concepción, Concepción.
- Instituto de Ciencias de la Tierra y Evolución, Escuela de Graduados Facultad de Ciencias y Facultad de Ciencias Agrarias, Universidad Austral de Chile, Valdivia.
- Proyecto Mecesus UCO 0708



*Proteoid roots of Gevuina avellana*



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