

In the framework of the European Union funded Research project „**Functional significance of forest biodiversity in Europe (FunDivEUROPE)**“, INRA (French National Research Institute in Agronomy), within the UMR “Forest Ecology and Ecophysiology” based in Nancy, France, in collaboration with the Leibniz Centre for Agricultural Landscape Research (ZALF), Müncheberg, Germany, is offering a

## **PhD position**

with the focus on **Water balance and water use efficiency of trees and forest ecosystems on different scales.**

**Background:** The water balance of forests depends strongly on abiotic conditions, but also to a large extent on tree species interactions such as competition or water use complementarity. Especially under more frequent and severe drought periods as forecasted under future climate, tree water use will become a critical aspect of ecosystem performance. At the ecophysiological level, transpiration, stomatal conductance and tree water use efficiency characterise tree drought resistance and determine ecosystem water use. The isotopic composition of carbon and oxygen ( $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$ , respectively) provides information on transpiration, stomatal conductance and water use efficiency integrated over various time periods depending on the turnover time of organic matter pools assessed.

**We are looking for** an ecophysiologicalist for stable isotope analysis and for the assessment of tree water use with different techniques from tree, plot to landscape levels.

Applicants should hold a Master of Science (M.Sc.) or equivalent degree (M2 in France) in a discipline relevant to one of the above specified projects (e.g. forestry, ecology, biology, environmental sciences, biogeochemistry,). The project requires a high level of autonomy and organization. Extended working periods (2-3 weeks in a row) at field sites (mixed species plantations; mature forests) in various parts of Europe (from Spain to Finland, from Poland to France) are planned. The applicants must demonstrate a strong interest and experience in conducting interdisciplinary research and should be willing to co-operate with the members of an international researcher team. The applicants must speak English fluently and if possible French or German.

**We are offering** a 3-years fixed term contract in a highly interesting interdisciplinary research project at the cutting edge of biodiversity – ecosystem functioning research carried out in a scientifically excellent international team with flat hierarchies. The candidates will be based at INRA Nancy, France, but will visit 2-3 times a year the main collaborator in this project, A. Gessler at ZALF in Germany. Net salary will be 1371 €/per month.

Earliest starting date is February 1, 2011 or later. For further information please contact one of the following addresses or send your application including a cover letter, CV, plus addresses of two references (name, postal and email address) to:

Damien BONAL, André GRANIER, Forest Ecophysiologicalist, INRA Nancy, UMR EEF - Université Nancy / INRA, 54280 Champenoux - FRANCE; tel: +(33) 3 83 39 73 43; fax: +(33) 3 83 39 40 22; mail: [bonal@nancy.inra.fr](mailto:bonal@nancy.inra.fr); website : <http://www.nancy.inra.fr/eef>  
Arthur GESSLER, Professor of Landscape Biogeochemistry, Institute for Landscape Biogeochemistry Leibniz-Zentrum für Agrarlandschaftsforschung (ZALF) e.V., Eberswalderstr. 84, 15374 Müncheberg; tel: +49 33432-82 326; email: [gessler@zalf.de](mailto:gessler@zalf.de); website: [www.zalf.de](http://www.zalf.de)