

**PhD position in Molecular Ecology of Arbuscular Mycorrhiza,
INRA / Université de Bourgogne, Dijon, France**

We are looking for a highly motivated candidate to work on the molecular ecology of arbuscular mycorrhizal fungi (AMF). The aim of this project is to characterize fungal communities and populations, and associated bacteria, in order to explore the processes generating and maintaining fungal taxonomic and functional diversity. This knowledge will be useful to provide strategies for managing AMF for a more sustainable agriculture and in restoration projects in order to reduce chemical inputs.

Scientific background:

Arbuscular mycorrhiza is a ubiquitous symbiosis between plants and fungi from the phylum Glomeromycota which has been shown to be of great importance for plant nutrition and plant health. AMF can only be cultivated together with their plant hosts. Molecular methods have been developed to facilitate studies of AMF communities in field settings and have revolutionized our views of AMF ecology. Only recently it has become possible to resolve intraspecific diversity in glomeromycotan species, allowing to analyze the structure of populations. Over the years, we have been at the cutting edge of the development of these two types of markers. The present project will be situated at the interface between research on symbiotic gene function and ecological field studies of communities and populations.

Institutional context:

The work will be conducted at INRA Dijon, initially in the Research Units "Plant-Microbe-Environment" and "Microbiology of Soils and Environment", and from 2012 on in the new joint Research Unit "Agroecology". The project is financed by the Burgundy Regional Council. Important local resources for the project will be the collaboration with the International Bank of the Glomeromycota at Dijon (PME Research Unit), a reference collection of fungal isolates of worldwide importance and the platform Genosol. This institutional context offers a broad range of expertise in the ecology of soil microorganisms, plant-microbe interactions and environmental genomics.

Requirement for this position is a MSc or equivalent degree in biological sciences. The applicants should have a background in plant biology and/or microbiology and a strong interest in ecological questions. Experience in molecular laboratory techniques and a good command of the English language is desirable.

The project is funded for three years. The monthly salary will be approximately EUR 1500 (net). The competitive selection process is open to any nationality. If you would like to apply for this position, please send applications, including a letter of motivation, a CV indicating obtained degrees and marks and the addresses of two references by Email to dirk.redecker@dijon.inra.fr or by mail to Dirk Redecker, UMR Microbiologie du Sol et de l'Environnement, INRA/Université de Bourgogne, BP 86510, 17 rue Sully, 21065 Dijon cedex, France. The deadline is September 5, 2010.

The successful candidate will be selected by an examination committee of the graduate school E2S (Ecole Doctorale Environnements - Santé - STIC - N°490) in early October.

Websites: <http://dijon.inra.fr> - <http://science.redeckeria.org>

Relevant recent papers:

B. Börstler, O. Thiéry, Z. Sykorová, A. Berner, D. Redecker (2010): Diversity of mitochondrial large subunit rDNA haplotypes of *Glomus intraradices* in two agricultural field experiments and two semi-natural grasslands. *Molecular Ecology* **19**, 1497-1511.

O. Thiéry, B. Börstler, K. Ineichen, D. Redecker (2010): Evolutionary dynamics of introns and homing endonuclease ORFs in a region of the large subunit of the mitochondrial rRNA in *Glomus* species (arbuscular mycorrhizal fungi, Glomeromycota). *Molecular Phylogenetics and Evolution* **55**, 599-610.