



UNIVERSITÉ  
DE MONTPELLIER



CENTRE D'ÉCOLOGIE  
FONCTIONNELLE  
& ÉVOLUTIVE

The [Centre of Evolutionary and Functional Ecology \(CEFE\)](#) is one of the largest and most dynamic French research centers in Ecology. Its mission is to perform independent, fundamental scientific research on the dynamics of biodiversity, planetary environmental change, and sustainable development.

**Enquiries and further information:**

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**Applications:**

Please send applications (letter motivating your interest, your CV, and the contact information for two referees whom we can approach) to Alexandru Milcu.

**Timeline:**

Closing date for applications: 01.03.2017 (or until position is filled). Starting date: 1<sup>st</sup> of May 2017

**Place of work:**

Centre d'Ecologie Fonctionnelle et Evolutive  
1919, route de Mende

PhD position "**Adaptation to drought via transgenerational effects in holm oak: impacts on germination, growth and ecosystem-level carbon and H<sub>2</sub>O fluxes**"

We are seeking a PhD candidate to work on a project funded by the French National Research Agency (ANR). The project (entitled "*Transgenerational effects and physiological responses to drought recurrence in holm oak (Quercus ilex)*") aims to quantify and understand the physiological impacts of drought recurrence as well as the role of potential transgenerational epigenetic regulation in the adaptation of trees to drought recurrence events. The project will take advantage of a long-term field experiment (the [CNRS Puéchabon](#), near Montpellier France) and a unique controlled environment facility for ecosystem research (the [CNRS Montpellier European Ecotron](#)). By combining the identification of epigenetic marks with gene expression and assessments of the consequences of transgenerational memory for the acquisition and allocation of water, nitrogen and carbon in trees using multiple isotopic tracers (<sup>13</sup>C, <sup>15</sup>N and Deuterium) in the Ecotron, the project aims at closing an important knowledge gap in our understanding of how a keystone Mediterranean tree species might acclimate and adapt to future climatic conditions.

The candidate will primarily focus on: 1) quantifying the potential transgenerational effects of long-term drought on seed germination, seedling establishment and performance and 2) assessing the impact of drought recurrence events on the physiology and plasticity of carbon, nitrogen and water acquisition and use in the Ecotron.

Supervisors: Alexandru Milcu & Stephan Hättenschwiler. Collaborators: Jean-Marc Limousin (CEFE), Arthur Gessler (WSL), Marie Mirouze (IRD), Martina Peter (WSL) & Frank Richard (CEFE).

**Requirements:**

- Excellent MSc degree in ecology / biology
- Experience in experimental work
- Good data analysis and statistics skills (R)
- Proficient in English

**We offer:**

- A three year PhD position funded according to the common French standards
- Top level interdisciplinary research environment
- Excellent technical facilities
- Support and training courses by our graduate school (GAIA) at the University of Montpellier