

## Company Description

We are a research centre on the causes and consequences of climate change. Led by one of the most recognized scientists in the Climate Change field -Prof. Maria José Sanz, we produce multidisciplinary knowledge to support decision making towards sustainable development at the international level. With a multidisciplinary team, connected to the main scientific institutions, networks and socio-economic agents, for a decade, our contribution to research of climate change and to the science-policy interface puts us in a unique position to offer knowledge, tools, new methodologies and cross-cutting proposals, that we lead towards action in a collaborative framework with stakeholders, to design and help implement policies aimed at sustainable development.

## Information

 **Deadline:** 2020-02-13  
 **Category:** Academia  
 **Province:** Bizkaia

 **Country:** Basque Country  
 **City:** Leioa

## Company

BC3 Basque Centre for Climate Change



## Main functions, requisites & benefits

### Main functions

Current climate change scenario, with continuously rising temperature and more frequent and severe drought episodes severely threatens the maintenance of forests at the rear end of their climatic distribution limit. Symbiotic associations between tree roots and ectomycorrhizal fungi (ECM) can contribute to maintain forest functionality by enhancing root uptake of water and nutrients. In this project, funded by the regional Basque Government, we aim to quantify the functional role of ECM in beech forests in northern Spain, where this species finds its driest distribution limit. To this end, we will combine an empirical and experimental characterization of the ECM community in the field, under contrasting climatic conditions, using molecular and isotopic techniques, together with an experiment under controlled conditions, where we will quantify the functional importance of ECM fungi for nutrient and water uptake. In this project, we are seeking to employ a very motivated research assistant capable of performing laboratory and field work, methodical, responsible and fascinated with nature and the functioning of ecosystems. Among other tasks, the research assistant will be responsible for (and not limited to): Implement a glasshouse experiment, including: Regular watering and control of climatic conditions. Preparation of soil media. Incubation of seeds and saplings. Aboveground morphological measurements (leaf area, height and collar diameter). Preparing nutrient solution with and without isotopic marc. Destructive harvests. Root washing and belowground morphological measurements and scanning. Identification of root tips under the binocular lens. Collection and processing of soil and wood samples in the field, including: Wood core extraction and branch collection. Collection of soil cores. Monitoring of hyphal growth. Root washing, morphological measurements and identification of root tips under the binocular lens. DNA extraction of soil samples. Perform cryogenic water extractions of soil and wood samples for isotopic analyses. Extraction, processing, dating and measurement of wood cores. Data compilation.

### Requisites

Experience/skills required: the applicant should hold a BSc. Degree ("Grado" or equivalent) in Environmental Sciences and/or Biology. The applicant should hold a valid driving permit (EU type B or equivalent). The applicant should be fit to perform field work under harsh conditions (irregular terrains, hot and cold temperatures and substantial rain). The applicant should not suffer from any particular condition that would prevent him/her from working in the laboratory manipulating hazardous substances. Applicants should be fluent in English, have excellent interpersonal skills and demonstrated ability to work in a team. Other experience/skills valued: previous experience in organizing and supporting glasshouse and field experiment is very desirable. The ability to understand and communicate in French is not required but would be desirable. Database management and fluency in the language computing R will be positively evaluated.

### Benefits

As a HR Excellence awarded institution, BC3 is committed to conciliate research-academic requirements and family duties. BC3 is