

Universitat de Lleida

## **PhD fellow offer in soil fungal communities and forestry.**

### **Open Position**

The **IberusTalent** and Marie Curie program in collaboration with Department of Crop and Forest Sciences, **University of Lleida** (Catalonia, Spain) offers a PhD position. The application **deadline is January 31, 2019**. It is an Early Stage Researchers (ESRs) programme cofounded by the EU as part of the H2020-Marie Slodowska Curie Action Cofound.

**Project Title:** Fungal community dynamics in forest soils in response to disturbances: consequences for Mediterranean forest management

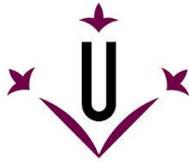
<http://iberustalent.campusiberus.es/en/2018Agro4>

Fungi inhabiting soils determine many ecological processes that are responsible of ecosystem functioning, such as many biochemical and nutrient cycle processes (e.g. soil organic carbon dynamics). However, belowground fungal communities have been difficult to study due to the inconspicuous nature of these organisms. Nowadays, to circumvent this problem, new molecular technologies such as next generation DNA sequencing platforms or quantitative PCR (qPCR) are used to study fungal community composition, biomass or fungal airborne communities. This open new research line about the processes and filters (drivers) that control fungal communities in Mediterranean forest ecosystems.

Nowadays, there is a growing interest towards disturbance effects responses of forest ecosystems (i.e. silvicultural treatment adequacy or negative effects in a new global change context). It is clear that any disturbance will have an effect on above and belowground heterogeneity producing different environments and microhabitats (e.g. open gaps, underground new niches, biochemistry or spatial heterogeneity) to be occupied by diverse forest communities. However, microbial dynamics in Mediterranean forest soils remains unknown. Understanding how these communities respond to disturbances is crucial to predict future forests adaptations to environmental changes such as climate change.

The aim of the PhD is to contribute in identifying and understanding the processes and filters that affect fungal communities in forest ecosystems, providing a scientific foundation to develop tools oriented towards sustainable forest management and conservation of ecosystem services associated with fungi.

We are seeking a self-motivating, independent and enthusiastic individual to conduct applied research on soil fungal community dynamics. The PhD candidate will develop these tasks within a consolidated and internationally recognized research group with strong background in Mediterranean fungi. The scientific work may be partly based on



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the set of long-term permanent plots monitored since 1995 (Catalonia, Spain), which constitutes one of the most valuable datasets worldwide to study fungal diversity and productivity in Mediterranean forest. The candidate should also contribute to data gathering and monitoring in both ours and different long-term designs.

The PhD candidate should develop by itself new experimental set-ups and analyse molecular data obtained from next-generation DNA sequencing platforms using amplified fungal markers, and learn other molecular tools such as qPCR to quantify fungal biomass. The candidate should be able to relate these data with environmental data obtained in the field (e.g. soil biochemistry, thinning intensities). As a consequence, knowledge on data handling and low-medium level programming proficiency (e.g. R-program) would be desirable but are not essential as full training and support will be given. However, enthusiasm, self-motivation, curiosity and the ability to communicate to a range of audiences would all be distinctly advantageous.

**Supervision:** This research project will be developed in the Department of Crop and Forest Sciences at the University of Lleida. The supervisor will be Dr. Josu G Alday (<https://sites.google.com/view/josugalday>). The PhD will be also co-supervised by some colleagues from <http://www.medforlab.com/>.

#### **Required qualifications of candidates:**

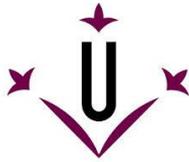
The applicants must have:

- Early Stage researcher from all nationalities can take part in **IberusTalent** programme if they meet the following requirements, according to admission conditions of Marie Skłodowska Curie Actions:

1. **Comply with the MSCA mobility rule:** The candidate must not have resided or carried out their main activity in Spain for more than 12 months in the 3 years immediately prior to **31/01/2019**.
2. **ESR eligibility criteria:** Early-stage researchers (ESR) shall at the time of recruitment be in the first 4 years (**full-time equivalent research experience\***) of their research careers and have not been awarded a doctoral degree.

***Full-time equivalent research experience** is measured from the date when a researcher obtained the degree which would formally entitle him or her to embark on a doctorate, either in the country in which the degree was obtained or in the country in which the researcher is recruited or seconded, irrespective of whether or not a doctorate is or was ever envisaged.*

3. Hold a degree from another country in the EHEA which grants access to a Master's degree and have achieved a minimum of 300 ECTS credits in university studies of which at least 60 must be at Master's level, or, Hold of a qualification obtained in accordance with foreign educational systems without the need for



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official recognition, having previously confirmed with the university that this qualification accredits a level of training equivalent to the official Spanish university Master's degree and that it would serve as a means of access to a PhD in the country in which it was awarded.

- Fluency in English, written and spoken.
- Driving license and availability to travel.
- Interest in learning multiple techniques.

Detailed information in:

<http://iberustalent.campusiberus.es/en/application-process>

### **Terms of employment:**

IberusTalent is committed to offer the doctoral fellows the best facilities to run his/her research, and the best environment and support for his/her activities.

Administrative units from the recruiting institutions, such as, Human Resources, Research Management, International Center, Student Care, Research Departments, will work together to take care of the fellow in terms of contract signing, VISA issues, research funds management for his/her project, trips and accommodation arrangements, etc.

Additionally, the participants will take part in:

- Research and training activities granted by the research group to carry out training or scientific activities of the fellow.
- Interdisciplinary and inter-sectorial skills training.

All relevant facilities of the 4 Universities will be at the fellows' disposal, according to the research area of choice.

One of the objectives of IberusTalent is to promote collaboration between Academia and industry, so specific activities will be done to provide specialized training for enabling professionals to do their work themselves with the most up-to-date knowledge and facilities.

**The gross annual salary is 22.000-26.000 € with 37.5 hours per week and fulltime dedication.**

### **Application procedure:**

The application, in English, must be submitted following the selected procedure:

<http://iberustalent.campusiberus.es/en/2018Agro4>

If you have any problem or questions, contact me by e-mail:

[jgalday@pvcf.udl.cat](mailto:jgalday@pvcf.udl.cat).