

The Institute of Evolutionary Biology seeks a PhD student

The Institute of Evolutionary Biology (IBE) is a joint Institute of the Spanish National Research Council (CSIC) and Pompeu Fabra University (UPF), located in Barcelona. IBE's research is focused on the processes and mechanisms that generate biodiversity and on understanding the genetic basis of evolution. The IBE is part of the Barcelona Biomedical Research Park (PRBB), a stimulating international research environment with state-of-the-art facilities.

The Evolutionary Microbiology Lab

The Evolutionary Microbiology lab's (<https://www.ibe.upf-csic.es/evolutionary-microbiology-group>) goal is to study the molecular mechanisms that facilitate adaptation to changing environments, as well as the limits of adaptation, using a combination of computational approaches, experimental evolution (of bacteria and single proteins) and *omics* (sequencing, transcriptomics). The group is part of the Biodiversity Program at IBE.

We are a small, but collaborative and dynamic group. The candidate will benefit from a vibrant and interdisciplinary academic environment with excellent opportunities for education, training and collaboration.

Project description

Environments change constantly, but bacteria can rapidly adapt to stressful conditions. How can bacteria adapt so quickly? While most research on bacterial adaptation centers on well-established model organisms, in our lab we investigate the mechanisms of adaptation in understudied bacterial species.

The candidate will use experimental evolution to investigate how bacteria with multipartite genomes adapt to nutrient limitation under both constant and fluctuating environmental conditions. The evolution experiments will be coupled with whole-genome sequencing to identify the genetic changes underlying adaptation. Particular emphasis will be placed on studying the role of copy number variations in driving adaptation to nutrient scarcity.

Specific Tasks

- Experimental evolution of bacterial populations
- Transcriptome/genome sequencing and analysis
- Directed laboratory experiments to test hypotheses derived from the evolution experiments

Requirements

- The successful candidate should hold a Master's degree in a relevant area such as evolutionary biology or microbiology and have a genuine interest in evolutionary biology
- Experience with standard molecular biology techniques (microbiological culture using sterile technique, PCR, cloning, DNA and RNA isolation, sequencing, etc.)

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- Programming skills and experience analyzing next-generation sequencing data are an asset
- The candidate should be self-motivated, curious, organized and able to work independently and as part of a team.
- Proficiency in English (oral and written)

What do we offer?

A fully-funded four-year PhD position, funded by a Proyecto de Generación de Conocimiento (AEI).

Starting date: March, 2026

Salary: 24.500 €/year gross salary

Location: Institute of Evolutionary Biology (Passeig Marítim de la Barceloneta, 37 – 49, Barcelona, Spain)

Application process

Application deadline: 30th September 2025

Interested candidates should e-mail Macarena Toll Riera (macarena.toll@ibe.upf-csic.es) with the subject line “PhD student position” and a motivation letter describing their interest in the project, their CV and contact information of two potential references.

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