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 MultiCellGenome Laboratory (https://multicellgenome.com)

We are interested in deciphering as much about how animals originated from unicellular relatives to be able to re-create that transition in the lab one day.
This will only be accomplished if we break the current huge bias we have about knowledge from unicellular relatives of animals. Therefore, our mission is to break that asymmetry by generating an open, taxon-wide functional platform of experimentally tractable unicellular relatives of animals for the use of the whole community. We are an evolutionary biology lab. We are a genomics lab. A cell-biological lab. A protistologist lab. We are also a developmental biology lab. And a taxonomists lab! More importantly, we are an engaged team, a family that approaches science with an open mind, that joins forces with the best global partners when needed, and that commit to our values in everything we do.

Project Description

The origin of multicellular animals from their unicellular ancestor represent one of the most important evolutionary transitions in the history of life. However, and despite its importance, the mechanisms underlying this transition remain largely elusive. Our laboratory is at the forefront of addressing this fundamental question. Over the past 15 years, we have advanced considerably on our quest to unravel how animals originated. We have unravelled who are the closest unicellular relatives of animals, got their genomes to infer the genetic composition of the unicellular ancestor of animals, and we even have established four species as emerging model systems to experimentally address questions about the origin of animals.

Our research has shown that the unicellular ancestor of animals was much more complex than previously thought. That ancestor already had the genetic raw material to evolve into a multicellular organism. Our hypothesis is the unicellular ancestor had a highly phenotypic plasticity and the capacity to differentiate into many different cell stages.

In this proposal, we aim to get additional data crucial to unravel the origin of animal cell types, and understanding the role of the phenotypic plasticity in transition towards a multicellular entity. We also aim to strengthen our experimental model systems so that we can create the best possible functional platform to analyze the origin of animals. The project and the results generated will have implications not only for evolutionary biologists, but also to protistologists, cell biologists, and developmental biologists.

Funding

What do we offer?

A fully-funded four-year PhD contract to work on the recently funded from the Spanish Ministry of Science, Innovation and Universities research project: The origin of animals: a cell biological approach. PID2023-153273NB-I00, leaded by Elena Casacuberta and Iñaki Ruiz-Trillo.

Starting date: between 1 January, 2025 and 1 March, 2025
Salary: first year: around 19.000 € gross salary; second, third and fourth years: around 23.500 € gross salary
Location: IBE, CMIMA building (Mediterranean Marine and Environmental Research Center), Passeig Marítim de la Barceloneta 37-49, Barcelona, Spain

Application deadline: 15th September, 2024

Interested candidates should e-mail (elena.casacuberta@ibe.upf-csic.es and inaki.ruiz@ibe.upf-csic.es), with the subject line “PhD student position” and (1) their CV, (2) a motivation letter describing their interest in the project, and (3) contact information of two potential references.

Funding