

## The Institute of Evolutionary Biology seeks a: Postdoctoral researcher in Microbial Genomics

The Institute of Evolutionary Biology (IBE) is a joint Institute of the Spanish National Research Council (CSIC) and the Pompeu Fabra University (UPF) located in Barcelona city. IBE research is focused on the processes and mechanisms that generate biodiversity and on understanding the genetic basis of evolution. The IBE is a center member of Barcelona Biomedical Research Park (PRBB).

### Description Group/Unit

In the Evolutionary Microbiology lab we study the molecular mechanisms that facilitate adaptation to changing environments and the limits of adaptation using a combination of computational approaches, experimental evolution and multi-omics. Our research lies on the interface of evolutionary biology, systems biology and structural biology.

The group is currently based at ETH Zurich and will move to IBE in September 2024. The lab is part of the Biodiversity Program at IBE. This position is funded by CSIC (Excelencia RyC-Max)

### Project description

10% of bacterial genomes, including some important pathogens, are multipartite. Multipartite genomes consist of a chromosome and at least one additional replicon larger than 350 kb. The evolutionary advantages of a multipartite genome are poorly understood. However, one of the main hypotheses is that they may facilitate adaptation to new environments (diCenzo and Finan 2017).

Given that exponential growth in the number of sequenced bacterial genomes, it is likely that the number of bacterial species with a multipartite genome is now outdated. In this project we will reassess the frequency of multipartite genomes and study their origin, characteristics, evolution and plasticity using phylogenomics and comparative genomics approaches.

The successful candidate will be encouraged to design and undertake additional projects.

### Duties:

- Use comparative genomics and phylogenomics to analyse a large dataset of bacterial genomes
- Get involved in writing papers and funding acquisition
- Mentor PhD and master students

### Candidate requisites

- PhD in evolutionary biology, computational biology or related field and a genuine interest in evolutionary biology
- At least one first author publication
- Excellent programming skills (R, Python)

- Experience in comparative genomics, in the analysis of next-generation sequencing data and metagenomics is an asset
- Proficiency in English (oral and written)
- The candidate should be highly motivated, enthusiastic, curious, and able to work independently and as part of a team

### What do we offer?

- A full time postdoctoral researcher contract of 12 months, with the possibility of further renewal.
- Salary depending on experience and according to CSIC salary scales (37.000-41.000 gross salary/year)
- Starting date is expected in Fall 2024
- Location: Barcelona, Institute of Evolutionary Biology (passeig Marítim de la Barceloneta, 37 – 49)

### Application process

If you are interested in this position, please send your application (one single PDF file) to Macarena Toll-Riera ([macarena.toll@env.ethz.ch](mailto:macarena.toll@env.ethz.ch)) with the following documents: motivation letter, CV including publication list, and contact information for 2-3 potential references. Deadline for applications is 31<sup>st</sup> July 2024.