Position Offered: PREDOCTORAL RESEARCHER
Project: *Development of tools and algorithms for the processing and integration of large-scale spatial and single-cell transcriptomics data, utilizing high-performance computing and artificial intelligence*

Technological and scientific fields: Massive data and information processing technologies, high-performance computing, medical imaging, data analysis and integration, artificial intelligence, computational biology, image analysis and computer vision, edge computing

Location: Granada, Andalusia, Institute of Parasitology and Biomedicine "López-Neyra". https://www.ipb.csic.es

Research Group/PI: Genetic Basis of Autoimmune Diseases. Javier Martín, https://www.ipb.csic.es/departamentos/javiermartin.html

PROJECT SUMMARY

Bioinformatics plays a fundamental role by closely aligning with the most recent technological advances, with analyses and results relying on advanced tools and algorithms. Bioinformatics not only facilitates the management of these data but also drives innovation in personalized medicine and fosters interdisciplinary collaboration, a key piece in the advancement of science. This project aims to develop new methods and algorithms capable of analyzing and integrating a vast volume of biomedical data related to single-cell transcriptomic analysis and the latest spatial transcriptomics. The project encompasses numerous themes, such as: mass data processing technology, FAIR principles (Findable, Accessible, Interoperable, and Reusable), high-performance computing, analysis of medical images using artificial intelligence, and integration of multidimensional data.

PROFESSIONAL PROFILE

Minimum requirements:

The following requirements must be met:
- Degree in Biochemistry or Molecular Biology or Biomedicine or Biotechnology or Computer Engineering.
- Official Master's Degree for the completion of a doctoral thesis
- Fluency in Spanish and English (spoken and written)

Merits to be considered:

The following essential requirements must be met:
- Master's degree in Bioinformatics or Biostatistics or Omics Data Analysis
- Proficiency in applications of Artificial Intelligence in Health/Biomedicine
- Knowledge of descriptive statistics-based data analysis techniques
- Experience in programming in R/Python and proficiency in Linux usage
- Certificate C1 of the Common European Framework of Reference for Languages (CEFR)

WHAT IS OFFERED

This project will facilitate the analysis of large volumes of data from an innovative platform for biomedical research, allowing for the addressing of complex biological questions and the development of new therapeutic approaches. Additionally, it will promote the training of researchers in advanced bioinformatics and data analysis techniques, ensuring that the CSIC remains at the forefront of research. **It includes a training plan of 240 ECTS credits** (over the 4 years of the contract), encompassing the completion of a master's degree, various courses, and two research stays.

Contract conditions:

Predoctoral Researcher contract of 4 years' duration. Gross annual salary of 23,871.33 €.

Start of contract: before 31 December 2024

PRINCIPAL INVESTIGATOR CONTACT

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