Position Offered: UNIVERSITY GRADUATE

Project: Development and implementation of tools for the analysis and integration of multi-omics data, through the use and development of AI functionalities.

Technological and scientific fields: Computational Biology; Artificial Intelligence (AI); Data integration and analysis; Massive data and information processing technologies; High performance cloud computing

Location: Madrid, Comunidad de Madrid, Centro de Biología Molecular (CBM) Severo Ochoa, https://www.cbm.uam.es/en/

Research Group/PI: Biocomputational Analysis Service / Begoña Aguado Orea

PROJECT SUMMARY

The field of bioscience has been radically transformed not only by the development and application of advanced computational tools for the management and analysis of massive data, but also by the challenge of integrating data from omics technologies: genomics, transcriptomics, metagenomics, metabolomics, proteomics, etc., as well as imaging, to understand biological systems. Given the integration challenges and difficulties in storage, management and analysis of complex data, this project, through AI, focuses on two objectives: 1) Development of cutting-edge analyses on novel protocols of massive technologies, from single cell to bulk sequencing, of long and short reads, and other omics. 2) Development and implementation of multi-omics data integration, storage and management protocols. The project will be carried out in the Biocomputational Analysis Service (SABio) of the CBM, with demonstrated experience, skills and specialized knowledge in these matters.

PROFESSIONAL PROFILE

Minimum requirements:

Degree in life sciences (biochemistry, biomedicine, molecular biology, biotechnology, biology, etc.), chemistry, physics, mathematics, or similar. Experience in bioinformatics, with a focus on NGS data analysis. Effective communication in English. Master's degree in bioinformatics, computational biology, AI, or similar.

Merits to be considered:

Pipeline implementation experience. Strong programming skills in Linux, R, Python or Matlab. Advanced knowledge of statistics. Familiarity with machine learning techniques. Problem solving skills and attention to detail. Experience in cloud computing and parallel processing.

WHAT IS OFFERED

The hired person will be integrated into SABio of the CBM, where will be supervised by the IP, the Technical Manager and the rest of the members of the Service. Due to the nature of the Service, training in digital skills is essential. Stays will be carried out in national and international research centers, and courses, conferences, conferences, etc. will be attended. Of special interest will be training related to AI, Deep Learning and Data Mining. It will also be trained in: WGS, WES, RNA-seq, ChIP-seq, ATAC-seq, IsoSeq, single cell, and metagenomics data analysis. Statistical analysis. Development and implementation of tools. Data integration. With the training it is expected to reach up to 270 ECTs.

Contract conditions:

Indefinite contract for a University Graduate associated with the Momentum Project of 4 years' duration according to Spanish science law. Gross annual salary (37.000 € - 41.000 €).

Start of contract: before 31 December 2024

PRINCIPAL INVESTIGATOR CONTACT

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Financiado por la Unión Europea NextGenerationEU
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