

Position Offered: POSTDOCTORAL RESEARCHER

Project: *Identification of new treatments for sarcoma extracted from the combination of multiomic data and gene association rules by artificial intelligence.*

Technological and scientific fields: Bioinformatics, artificial intelligence, Cancer

Location: Sevilla, Andalucía, Instituto de biomedicina de Sevilla, <https://www.ibis-sevilla.es/es/>

Research Group/PI: Molecular Biology of Cancer, IP Amancio Carnero, <https://www.ibis-sevilla.es/es/investigacion/oncohematologia-y-genetica/biologia-molecular-del-cancer/>

PROJECT SUMMARY

To incorporate complex data from different multiomic analysis on tumors, including NGS, mRNA expression (coding and non-coding), proteome, methylome, and chromatin accessibility data (ATAC-seq) with transcription factors binding prediction to obtain the transcription factors network with in-depth bioinformatics analysis, the use of association rules, and reported gene-drug associations. We will establish a new flow chart for tumor analysis, identifying several potential new treatments for sarcoma patients.

Incorporate and analyze all these massive data with artificial intelligence to run the algorithm timely for possible use in patients.

PROFESSIONAL PROFILE

Minimum requirements:

Graduate in biomedical sciences, Software Engineering, computer science, biomedical engineering or bioinformatics, or equivalent. PhD in biomedical sciences, Software Engineering, computer science, biomedical engineering or bioinformatics, or equivalent. Advanced English knowledge

Merits to be considered:

Extensive knowledge in statistics, programming knowledge in R (or RStudio) and/or Python and/or Bash. Extensive knowledge/experience in techniques used in Artificial Intelligence (machine learning, neural networks, clustering algorithms, principal component analysis or knowledge of evolutionary algorithms, among others). Extensive knowledge of basic cancer processes, Experimentation Laboratory Experience. Experience in software program design

WHAT IS OFFERED

Training. Course: "TREE-BASED MACHINE LEARNING TECHNIQUES FOR SCIENTIFIC RESEARCH" <https://www.mncn.csic.es/es/sociedad-de-amigos-del-museo/tecnicas-avanzadas-de-machine-learning-para-investigacion-cientifica-i>, <https://www.mncn.csic.es/es/sociedad-de-amigos-del-museo/tecnicas-avanzadas-de-machine-learning-para-investigacion-cientifica>;

Course: "Introduction to Data Science: Statistical Programming with R"; Training in secondary analysis of omics databases. Training in SPSS analysis; Neural networks and Deep Learning course (<https://www.coursera.org/learn/neural-networks-deep-learning>). Training in project and publication writing.

Assistance Master's Degree in Omic Data Analysis and Systems Biology

Attendance IBIS Seminars and seminars Program: 20/year. Taught by external speakers and IBIS groups. Active participation in Lab meetings and national and international collaborations of the group. Active participation in national and international networks.

High publication capacity in international journals. High diffusion and dissemination

Contract conditions:

Indefinite contract for a Postdoctoral Researcher associated to the Momentum Project of 4 years' duration according to Spanish science law. Gross annual salary (41.000 € - 52.000 €).

Start of contract: before 31 December 2024

PRINCIPAL INVESTIGATOR CONTACT

Email: acarnero-ibis@us.es /Phone: 955923111

momentum@csic.es | <https://momentum.csic.es/>



Financiado por
la Unión Europea
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