Position Offered: UNIVERSITY GRADUATE

Project: *Computational tools for transcriptional studies in plants: transcription factor target prediction and regulatory SNP cataloguing*

Technological and scientific fields: Biotech, Climante change and biodiversity; Computational biology; Data analysis; Artifical intelligence

Location: Madrid, Comunidad de Madrid, Centro Nacional de Biotecnología (https://www.cnb.csic.es/)

Research Group/PI: Regulation of gene expression in plants. IP: Jose Manuel Franco Zorrilla (https://www.cnb.csic.es/index.php/es/component/k2/item/1908-regulation-of-gene-expression-in-plants

PROJECT SUMMARY

The study of the interactions between transcription factors (TFs) and their target genes (TGs) is essential for understanding the genetic basis of the ability of plants to adapt to their natural environment and resilience. This project will address this study through two approaches: (a) analysis of TF-TG specific recognition, using computational strategies based on machine learning; (b) construction of a plant pan-cistrome atlas for the identification of regulatory SNPs. This project aims to create bioinformatics tools to study transcriptional regulation in plants and to develop a reference portal in the field that integrates all the information generated. The research group (ORCID 0000-0001-6769-7349) has extensive experience in the study of transcriptional regulation in plants following experimental and computational strategies, which will allow to deepen the biological meaning of the results generated in this project.

PROFESSIONAL PROFILE

Minimum requirements:

- Graduate in Biotechnology and Master's degree in Computational Biology (or similar).
- Fluency in Spanish and English

Merits to be considered:

- Knowledge of Python, R and Linux programming
- Knowledge of machine learning

WHAT IS OFFERED

We offer participating in a cutting-edge research project in the field of plant molecular biology in a multidisciplinary and highly collaborative environment with other research groups. You will complete +250 ECTS, which will include an face-to-face master's degree in data science and several online courses in programming and data engineering. Two training stays will be carried out, at least one of which will be international.

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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