Position Offered: POSTDOCTORAL RESEARCHER

Project: *Development and validation of advanced and low-cost digital technologies for efficient and sustainable agro-ecosystem management (ECODigital)*

Technological and scientific fields: Artificial Intelligence, Remote Sensing, Image Analysis and Computer Vision, Sensorisation, Digital Tools for Agriculture

Location: Madrid, Madrid, Institute of Agricultural Sciences (ICA), www.ica.csic.es/index.php/en

Research Group/PI: Geo-spatial and Precision Technologies for Sustainable Agriculture group (Tech4Agro) / PI: José Manuel Peña Barragán / https://tech4agro.csic.es/en

PROJECT SUMMARY

ECOdigital proposes the application of technologies in the fields of remote sensing, sensorisation, artificial intelligence (AI), image analysis algorithms and computer vision for the development and validation of digital tools for agriculture. Digital technology will be used through ground and remote sensing (drone) to monitor crops and their habitat. The entire digitisation workflow will be covered, mainly through low-cost hardware and open source, free and accessible software. ECODigital will be implemented mainly in different plots of the experimental farm La Poveda (managed by the ICA-CSIC), through three pilot scenarios covering a wide range of agro-ecosystems (maize, vineyard and floral margins). In addition to promoting the use of technologies in the agricultural sector, this proposal aims to enhance the resources of the La Poveda estate and the ICA as reference centres for R&D in the digitisation of agriculture.

PROFESSIONAL PROFILE

Minimum requirements:

- PhD degree, with university qualification in agricultural/forestry engineering, environmental sciences, other engineering or sciences related to the scope of this project.
- High level of English.

Merits to be considered:

- Experience in remote sensing and/or Geographic Information Systems (GIS).
- Knowledge in programming oriented to image and data analysis with spatial component (e.g. Python, R), and use of sensors/equipments for agricultural data acquisition.
- Drone pilot license.

WHAT IS OFFERED

To carry out R&D activities in the Tech4Agro group, made up of researchers in agricultural sciences, remote sensing, geophysics and industrial engineering, with a clearly interdisciplinary nature. The contracted person will be trained and will work on cutting-edge digital technologies to advance the study of agro-systems, following the objectives set out in the group's current projects. An ambitious training plan is included (275 ECTS in 4 years), with courses in Python and C++, low-cost Sensorisation, and Machine/Deep Learning, including training stays in prestigious AI centres at UCO (Spain), SCSU (USA) and UCL (England).

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

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