Position Offered: PREDOCTORAL RESEARCHER

Project: *Phenotypic modeling through computation of massive complemented genomic data and its applications to forest genetic resource conservation and breeding in the face of global change*

Technological and scientific fields: Digital tools for agriculture, livestock and aquaculture; Climate change and biodiversity; Computational Biology; Artificial intelligence; Data analysis and integration

Location: Madrid, Madrid, ICIFOR-INIA, https://www.inia.es/unidades/Institutos%20y%20Centros/ICIFOR/Pages/Home.aspx

Research Group/PI: Population Genetics and Evolution Group / PIs: Juan José Robledo Arnuncio and Ricardo Alía, https://www.inia.es/investigacion/forestal/Ecolog%C3%ADa%20y%20Gen%C3%A9tica/Gen%C3%A9tica%20de%20poblaciones%20y%20evoluci%C3%B3n/Pages/Home.aspx

PROJECT SUMMARY

Based on the computational analysis of massive genomic and phenotypic data sets from several forest tree species, we will evaluate the genomic architecture of phenotypes of ecological and economic interest (biomass, resistance to biotic and abiotic factors, etc.) and train genomic selection models to predict related phenotypic values. Results will be transferred to public and private stakeholders involved in forest genetic resources conservation and breeding

PROFESSIONAL PROFILE

Minimum requirements:

- Degree(s) in Biology, Forest Engineering, Environmental Sciences, Pharmacy, Computer Engineering or similar, totalling 300 ECTS credits, of which at least 60 credits must correspond to an official master degree
- Proficiency in English language

Merits to be considered:

- Proficiency in Spanish language
- Knowledge of population genetics, bioinformatics and/or computational models
- Experience with R, SAS or other statistical software packages
- Experience with programming languages
- Knowledge of forest sciences

WHAT IS OFFERED

Training and supervision within an interdisciplinary team (molecular and quantitative geneticists, evolutionary ecologists, ecophysiologists) with extensive international contacts (EUFORGEN and EVOLTREE networks, European FORGENIUS and OPTFOREST projects, etc.) and continuous outreach activity (e.g. project with MAPAMA in forest genetic resources conservation and breeding). Co-supervision of doctoral thesis by two members of the host team. Support for the completion of a related doctoral program at the UCM, URJC, UPM or others. Access to genomic and phenotypic data sets from natural populations and genetic trials. Training in using and developing AI-based models. Access to high-performance computing facilities (CESGA and DRAGO). Training plan in digital skills (100 ECTS), research visits in international labs (3 months).

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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