

ANNOUNCEMENT FOR PROVISION OF THE WORKPLACE

VAC-2023- 43 Research engineer (DOLMEN project)

Number of places: 1

Category: RENG-4

Workplace: Madrid

Salary (gross): 27.774,98 €

Weekly working hours: 40

Duration: 2 years

Functions to be developed:

The position is funded by the DOLMEN project: Dam safety control with dynamic warning thresholds combining numerical Models and machine learning ([PID2021-122661OB-I00](#)). The main objective of the Project is the development of a methodology for the definition of reliable and dynamic warning thresholds for key indicators of dam behavior, based on a hybrid approach that combines Machine Learning techniques and numerical models.

The selected candidate will participate in the development of methodologies for combining numerical models and machine learning to generate enhanced predictions of dam behaviour: generation of synthetic data with FEM to enrich the databases used for fitting machine learning models; enhanced accuracy of FEM models by correcting their results with machine learning; development of strategies to overcome situations of low quality monitoring data; definition of flexible warning thresholds.

Valued skills:

- MSc or PhD in engineering (preferable civil) or applied mathematics.
- Background on dam engineering and dam safety.
- Development and application of Machine Learning models
- Programming skills: Python, R.
- Structural health monitoring. Anomaly detection in civil structures
- Application of numerical models for structural analysis
- Writing and communication skills

Qualification system:

The requisites and merits will be evaluated with a maximum note of 100 points. Such maximal note will be obtained summing up the following points:

- **Publication and career track: 20%**
- **Previous research and academic experience in the field of the position: 25%**
- **Programming skills: 20%**
- **Language skills: 5% (English)**
- **Test and/or interview: 30%**

Candidates must complete the "Application Form" form on our website, indicating the reference of the vacancy and attaching the required documents.

The deadline for registration to the offer ends on Friday 28th, July at 12 noon.

The preselected candidates may be requested to send the documentation required in the "Requirements" and "Merits" sections, duly scanned, and may be called to go through selection tests (which might be of eliminatory nature) and / or personal interviews.

Este contrato es parte del proyecto de I+D+i PID2021-122661OB-I00, financiado por MCIN/AEI/10.13039/501100011033/ y "FEDER Una manera de hacer Europa".

