

JOB VACANCY ANNOUNCEMENT

VAC-2023-64 – Research Engineer

Number of places: 1

Category: Research Engineer – RENG 4

Workplace: Barcelona

Salary (gross): 27.774,98 €

Weekly working hours: 40h

Duration: Until 31/08/2024

Functions to be developed:

Development work of GPFEM code and its application to soil-root interactions. Emphasis in homogenized continuum models. An elasto-plastic constitutive model in the framework of Critical State soil mechanics will be proposed in which the presence of roots will be taken into consideration in a continuum approach. The reference model, an enhanced version of the CASM model (Yu, 1998) for unsaturated soils, will be extended so the yield surface size depends on both the suction of the soil and the reinforcement by plant roots (Switala et al, 2019). The progressive failure of roots due to straining, causing a progressive deletion of the reinforcement effect of roots, will be incorporated through a set of new hardening laws.

Required skills:

- To be in disposition of a doctor title, with an specialization in Geotechnics.

Other valued skills (not mandatory):

- Familiarity with geotechnical application of the Particle Finite Element Method
- Experience in coding the Particle Finite Element Method
- Ability to communicate research findings as evidenced from a published track record

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:** 30%
- **Previous research and academic experience in the field of the position:** 40%
- **Programming skills:** 10%

- **Language skills:** 10%
- **Communication/Teaching skills:** 10%

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 October 30th, 2023 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.

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