CIMNE
International Centre for
Numerical Methods in Engineering
HR EXCELLENCE IN RESEARCH
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JOB VACANCY ANNOUNCEMENT

VAC-2025-07 – THM Modelling of Reinforced Soil Structures

Number of places: 1

Category: Innovation Trainee 3

Workplace: Barcelona

Salary (gross): 14.074,58 €

Weekly working hours: 30 h weekly

Contract type: Indefinit per activitats científico i/o tècniques

Duration: 9 months

Functions to be developed:

The functions assigned to the "THM Modelling of Reinforced Soil Structures" will include, but are not limited to:

- Define and develop coupled numerical models to reproduce the rate-dependent response of geosynthetic reinforced soil structures.
- Undergo several physical tests campaign to properly characterize soil-reinforcement interface properties considering different materials (e.g., reinforcement type), geometry, installation procedures, and soil conditions.
- Study sustainability-related aspects of geosynthetic reinforced soil structures.
- Collaborate with various research groups within CIMNE and worldwide.
- Carry out quality research, training and management.
- Participate on the dissemination and outreach activities associated with the project and his/her work.
- To publish in high-impact international journals (JCR journals) during the contract duration, author and co-author articles.

Required skills:

- Civil or Geotechnical Engineering (Master level, equivalent, or higher). Further specialization in geotechnical engineering will be favourable.
- Knowledge of analytical design and numerical modelling of reinforced soil structures, particularly reinforced soil walls.
- Experience in numerical modelling by finite element methods, particularly with non-linear models with thermo-hydro-mechanic dependencies. Past experience with the CODE_BRIGHT software packages will be valuable.

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- Laboratory experience for soils and geosynthetics sample physical testing.
- Knowledge/experience on polymeric materials mechanical performance.
- Knowledge of life cycle analysis and sustainability assessment of geotechnical structures.
- Past scientific production (journal and congress publications) relevant to reinforced soil structures.
- Proper command of English (written and spoken).
- Proper command of Spanish (written and spoken).

Other valued skills (not mandatory):

- Programming 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:

- Academic qualifications: 40%
- Training and development: 25%
- Professional experience: 10%
- Knowledge of the Catalan language: 5%
- Knowledge of the English language: 5%
- Selective tests and interview: 15%

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 January 22nd, 2025 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.

Commitment to inclusitvity:

At CIMNE, we champion workplace equity, diversity, and inclusion. We're committed to fostering a culture where everyone can thrive, leveraging diverse talents and backgrounds. We welcome all applicants regardless of color, religion, gender, origin, abilities, gender identity, sexual orientation, pregnancy or any other characteristic. Join us in building a community that values, celebrates, and respects every individual.

HR Excellence in Research:

CIMNE welcomes and supports the principles of European Commission's *European Charter for Researchers*

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and the *Code of Conduct for the Recruitment of Researchers*, embracing a transparent, attractive, and open labour market in research. The centre's Human Resources Strategy for Researchers (HRS4R) includes an action plan with actionable short and long-term actions to support a high-quality working environment for all. Further information can be found here.