

ANNOUNCEMENT FOR PROVISION OF THE WORKPLACE

VAC-2023-28 – Expert in multicomponent flow simulations in porous media

Number of places: 1

Category: Research Engineer 5 - RENG5

Workplace: Barcelona

Salary (gross): 22.219,99

Weekly working hours: 40

Duration: 11 months

Functions to be developed:

Carbon capture and storage techniques (CCS) are urgently needed if we aim at meeting the climate change targets set by the Paris Agreement reached at the 21st Conference of the Parties. This project will develop and validate a numerical simulation software designed to assist decision-making engineers during the CO₂ storage in saline aquifers. The main objective of such a tool is to quantify the maximum CO₂ injection rate and volume that guarantees its permanent storage.

The main tasks to be developed for this position are:

- Development of an efficient finite-element based multicomponent flow simulation tool to model porous-media flow in fractured rock.
- Assistance in the design and implementation of a suitable Graphical User Interface (GUI) for the resulting software.

Required skills:

- Expertise in multicomponent flow simulations.
- Mastery of (stabilised) finite element methods for CFD.
- Advanced C++ and Python programming skills

Other valued skills (not mandatory):

- Familiarity with the oil and gas industry.
- Knowledge of the Kratos Multiphysics developing platform
- Proficient mastery of spoken Spanish or English, and excellent written skills in English.
- Good communication skills; in particular, an effective capacity to synthesise and explain complex concepts, such as mathematical models and computer algorithms.

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:** 10%
- **Previous research and academic experience in the field of the position:** 30%
- **Programming skills:** 20%
- **Theoretical competence:** 25%
- **Language skills:** 10%
- **Communication skills:** 5%

Esta vacante está vinculada al Proyecto TED2021-130510A-I00 de investigación financiado por MCIN/AEI /10.13039/501100011033 y por la Unión Europea NextGenerationEU/ PRTR.

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 June 6th, 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.

