CIMNE
EXCELENCIA SEVERO OCHOA
International Centre for Numerical Methods in Engineering
cimne@cimne.upc.edu
+34 93 401 74 95
CIMNE - Edifici C1 Campus Nord UPC
C/ Gran Capità, S/N
08034 Barcelona, Spain

ANNOUNCEMENT FOR PROVISION OF THE WORKPLACE

VAC-2023-04 – Junior Research Engineer (SECCO2 project)

Number of places: 1

Category: Research Engineer 6 - RENG6

Workplace: Barcelona

Salary (gross): 17.775,99 €

Weekly working hours: 40

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 a robust smeared crack model for simulating fluid-driven fractures in porous medium without remeshing.
- Implementation and validation of the required numerical model with well-established numerical experiments.
- Assistance in the design and implementation of a suitable Graphical User Interface (GUI) for the resulting software.

Required skills:

- Expertise in geomechanics and fracture mechanics
- Mastery of the finite element method (especially for solving porous-medium flow problems)
- Advanced C++ and Python programming skills

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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: 20%
- Programming skills: 30%
- Theoretical competence: 20%
- Language skills: 10%
- Communication 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 January 31st, 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.

Proyecto TED2021-130510A-I00 financiado por MCIN/AEI /10.13039/501100011033 y por la Unión Europea NextGenerationEU/ PRTR