

# ANNOUNCEMENT FOR PROVISION OF THE WORKPLACE

## VAC-2022-80 – Developer of numerical methods for granular flow modeling (GRAIN project)

**Number of places:** 1

**Category:** RENG6

**Workplace:** Barcelona

**Salary (gross):** 17.174,87 €

**Weekly working hours:** 40

### Functions to be developed:

GRAIN is a national research project aimed at developing a new numerical paradigm for the modelling and prediction of granular material behaviour with a multi-scale approach.

The functions of the successful candidate in the framework of the project will be the development and implementation in Kratos Multiphysics software of a multiscale numerical method for granular material modeling for both mechanical and thermal analyses.

The tasks of the successful candidate will also include periodic meetings with the project principal investigators, writing of reports and scientific articles for international peer-reviewed journals, as well as the participation at international congresses for GRAIN results divulgation.

### Required skills:

- Bachelor degree in Mechanical engineering, Geotechnical engineering, Civil engineering, Computational Engineering, Physics or similar.
- Experience in developing and coding of discrete numerical methods for industrial applications.
- Knowledge of granular flows modeling through finite elements method or similar.
- Good understanding of programming, mainly in C++ and Python.
- Experience in using and developing of numerical methods in Kratos Multiphysics
- Fluency in English language.

### Other valued skills (not mandatory):

- Fluency in Spanish language.
- Knowledge and experience in using multi-scale tools in the computational mechanics field.
- Knowledge and experience in using machine-learning tools in the computational mechanics field.

- Experience in design and analysis of laboratory experiments in the context of granular material.
- Experience in developing of graphical user interface for numerical methods in GiD.

#### 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:

- Previous research and academic experience in the field of the position: 30%
- Programming skills: 20%
- Language skills: 10%
- Communication skills: 10%
- 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 November 15, 2022 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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