

CONVOCATORIA PARA LA PROVISIÓN DE PUESTO DE TRABAJO

VAC-2022-72 – Engineer in numerical methods (NextSim project)

Positions open: 1

Professional category: Research Engineer (RENG 3)

Work centre and location: Castelldefels, Campus PMT-UPC

Gross annual salary: 32.202,88 €

Daily timetable: 40 hours per week

Position duties:

NextSim [<https://nextsimproject.eu/>] is a European project aiming to increase the capabilities of current computational fluid dynamics tools for aeronautical design by re-engineering them for extreme-scale parallel computing platforms. The consortium accounts for several top-level research institutes and universities, and the aircraft manufacturer Airbus also has an active participation.

The successful candidate will perform several tasks related to the numerical simulation and optimization of fluid dynamics problems. These tasks can be grouped into two main axes:

- Development and coding of small pieces of code demonstrating the capabilities of some of the numerical tools involved in the project (e.g. fluid dynamics solvers, visualization algorithms, reduced order model generators). These tools, referred to in the framework of NextSim as Mini-apps, are to be programmed in C++, Python.
- Development of optimization methods for aeronautical applications. The candidate is expected to use an in-house optimization library written in C++, that currently implements cutting-edge hybrid optimization methods.

This job offer represents an opportunity to join a large international project on fluid dynamics. The candidate is expected to have a genuine interest in the targeted industrial application and in the research questions that arise when approaching it numerically.

This contract is part of the project I+D+i PCI2021-121945, funded by MCIN/ AEI/10.13039/501100011033/ and by "Unión Europea NextGenerationEU/PRTR".

Requirements:

- Bachelor degree in Mechanical engineering, Aeronautical engineering, Civil engineering, Physics or similar.
- Experience in developing and coding numerical methods for industrial applications.
- Good understanding of programming, mainly in C++ and Python

Other aspects:

- Other programming languages, in addition to those already mentioned
- Aeronautical engineering knowledge.
- Fluent in English, both written and spoken.
- Knowledge of Catalan or Spanish welcome.
- Possibility to combine with Master studies
- Availability of partial tele-working. With a maximum of 20% of the time.

Assessment methodology:

First requirements and other aspects Will be assessed, grading up to 100 points. Weights are as follow:

- **Academic Degree:** 35%
- **Non-Academic learning:** 20%
- **Professional experience:** 5%
- **Knowledge of English language:** 10%
- **Test and interviews:** 30%

Candidates should fill in the form "Application Form" in the CIMNE's website, indicating the position reference, and adding the requested documents.

Deadline: October 31st of 2022 at 12h.

The selected candidates can be requested to submit additional documents to justify the fulfilment of the requirements and other aspects. They could be also requested to a meeting for a face to face, or virtual interview.

Position funded by:

