

JOB VACANCY ANNOUNCEMENT

VAC-2025-52 – Developer of the HP4FSW project

Number of places: 1

Category: PhD Student 2

Workplace: Barcelona

Salary (gross): 19.479,00 €

Weekly working hours: 40

Contract type: Indefinit per activitats científic i/o tècniques

Duration: 11 months

Functions to be developed:

- Develop an advanced Graphical User Interface (GUI) to support the definition and loading of CAD geometries for simulation.
- Implement functionalities within the GUI to configure Friction Stir Welding (FSW) process parameters, including advancing speed, rotation speed, and tilt angle.
- Integrate access to a material database through the GUI.
- Enable the GUI to automatically generate simulation input files for execution on both local machines and computing clusters.
- Ensure compatibility of simulation outputs with ParaView for postprocessing and visualization of results, especially in distributed memory environments.

Projecte finançat amb el suport del Departament de Recerca i Universitats de la Generalitat de Catalunya amb l'ajut d'Indústria del Coneixement (Llabor i Producte) per a l'any 2024 de referència 2024 PROD 00034 en el marc del programa Ajuts de suport a la recerca.



Required skills:

- Computational Mechanics development knowledge
- Experience in GUI development
- Experience with HPC/cluster environments.
- Knowledge of ParaView or other postprocessing tools.
- Fortran 2008

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Other valued skills (not mandatory):

- Knowledge of CAD geometry integration.
- Familiarity with simulation workflows and input file generation.

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: 20 %
- Training and development: 20 %
- Professional experience: 20 %
- Knowledge of the Catalan language: 0 %
- Knowledge of the English language: 20 %
- Selective tests and interview: 20 %

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 the 25th of June, 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 inclusivity:

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.

Quota Reservation:

In line with our commitment to inclusion, we reserve a percentage of our workforce for people with disabilities. We especially encourage these individuals to apply.

HR Excellence in Research:

CIMNE welcomes and supports the principles of European Commission's [European Charter for Researchers](#) and the [Code of Conduct for the Recruitment of Researchers](#), embracing a transparent, attractive, and open labour

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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](#).