CIMNE R

**International Centre for
Numerical Methods in Engineering**

HR EXCELLENCE IN RESEARCH

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Centre Internacional de Mètodes Numèrics a l'Enginyeria ® Q5850006G

JOB VACANCY ANNOUNCEMENT

VAC-2025-29 – PhD Position in the Industrial Manufacturing Processes Group

Number of places: 1

Category: PhD Student 2

Workplace: Barcelona

Salary (gross): 19.479,00

Weekly working hours: Full Time

Contract type: Indefinit per activ.

Duration: From 1rst April 2025 to 30th November 2025 (with possible extension)

Functions to be developed:

The functions assigned to the candidate will be:

- Complete a PhD in the Computational Mechanics (Structural analysis) program. The candidate is expected to complete the PhD thesis in a maximum of three years.
- Collaborate with various research groups within CIMNE and worldwide.
- To publish at least three papers in JCR journals during the PhD period.

The details of the job are as follows:

- Reduced Order Modeling (ROM) in computational mechanics.
- Integration of Artificial Neural Networks for advanced classification and regression in process parameter optimization
- Development of Digital Twin

MINISTERIO
DE CIENCIA, INNOVACIÓN
Y UNIVERSIDADES

Cofinanciado por
la Unión Europea

AGENCIA
ESTATAL DE
INVESTIGACIÓN

Required skills:

- The position is aimed at students (Spanish nationals, EU and non EU citizens) who have completed one of the following options:

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de Catalunya**

**UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH**

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CERCA
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- o The studies that lead to an official Spanish, or European Higher Education Area, 1st cycle university degree (BSc) in Structural, Civil or Mechanical Engineering and that have 180 credits (ECTS) of an official university degree.
  - o A degree from a non-European Higher Education Area university that gives access to PHD studies in Structural, Civil or Mechanical Engineering.
- To be eligible for the scholarship grant the applicants have to be formally enrolled to a doctoral program or meet the conditions to be enrolled to a doctoral program at the moment of the recruiting.
- Excellent academic record.
- Advanced knowledge of Continuum and Computational Mechanics (master level).
- High working knowledge of English (Minimum B2).
- Programming skills: Fortran 2008 Object Oriented, Python
- Windows and Linux OS
- Familiar with Machine Learning Techniques and Algorithms

Other valued skills (not mandatory):

- Previous research or academic experience in the field of the position
- Previous experience in Parallel Computing (HPC).

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: 45%
- Training and development: 5%
- Professional experience: 10%
- Knowledge of the Catalan language: 2%
- Knowledge of the English language: 8%
- Selective tests and 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 March 20th , 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 inclusitvity:

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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.

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 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.