

ANNOUNCEMENT FOR THE PROVISION OF A WORKPLACE

Severo Ochoa PostDoc Trainee Position in Innovative Algorithms for Fast Accurate Computing Group (VAC-2021-08)

The International Centre for Numerical Methods in Engineering (CIMNE, www.cimne.com) is a research centre, created in 1987 by consortium between the Catalan Government and the Universitat Politècnica de Catalunya (UPC-BarcelonaTech), devoted to the development and application of numerical methods to a wide range of areas in engineering. CIMNE has been selected as a Severo Ochoa Centre of Excellence for the period 2019-2023. This is the highest level of recognition of excellence and leadership awarded to a research centre in Spain.

CIMNE is offering a research position that will be funded by the Severo Ochoa Programme.

Position details

Number of vacancies: 1

Category: Post Doc Trainee (PDOC2)

Location: Barcelona

Yearly salary (gross): 31.915,64 EUR

Working hours: Full time

Duration: 2 years

Starting date: No later than May 2021

Functions to be developed:

CIMNE is looking for a **Postdoc Trainee** to be part of the Research and Technical Development (RTD) Group on Innovative Algorithms for Fast Accurate Computing Group. Fast and accurate solution of computationally-demanding engineering problems is critical in daily industrial practice. Indeed, efficient strategies are needed to compute multiple queries of complex multi-physics and multi-disciplinary problems arising in parametric studies such as flow control, shape design and optimization, real-time monitoring of manufacturing processes and inverse analysis in medical imaging. To contribute in these challenges the group exercises a comprehensive approach in the area of computational science and engineering, in order to develop new mathematical models and numerical methods to predict and quantify science and engineering problems. This implies combining concepts, methods and models of an interdisciplinary nature that include various disciplines such as mechanics, mathematics and computer science, among others.

The functions assigned to the candidate will be:

- Plan and conduct high quality research
- Collaborate with various research groups across Europe and elsewhere
- Document and disseminate the research results within CIMNE and externally
- Publish in high impact journals
- Participate in research projects and contracts with industry of interest to the RTD Group
- Collaborate in the preparation of competitive RTD research proposals

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Requirements

- Having obtained a PhD degree in *Computational Engineering* at the moment of the signature of the contract.
- Good publication record (a minimum of 2 papers published in indexed journals)
- High working knowledge of English, both written and spoken.
- Experience and knowledge of numerical methods for the approximation of partial differential equations (in particular, the finite element method).
- Knowledge of computational mechanics, computational electromagnetics, reduced order models and machine learning is not compulsory but will be considered an advantage.
- Advanced programming skills (Matlab and/or Fortran).

Other valued skills

- Previous research and/or academic experience in the field of the position
- Programming skills in Matlab and FORTRAN
- Language skills English, Spanish and Catalan
- Good communication/Teaching skills
- Experience in coupled computational mechanics and model order reduction (preferably POD & PGD).

Evaluation procedure

The requirements and merits will be evaluated with a maximum mark of 100 points. Such maximum mark will be obtained by summing up the points obtained in the following items:

- Publication and career track (40%)
- Previous research and/or academic experience in the field of the position (20%)
- Programming skills (20%)
- Language skills (10%)
- Communication/Teaching skills (10%)

How to apply

Candidates must complete the "Application Form" form on our website, indicating the reference of the vacancy and attaching the following documents **in English**:

- Curriculum vitae, including Researcher's ID or ORCID No.
- A motivation letter.
- Academic transcripts from all Undergraduate, MSc and PhD degrees.
- Name and institutional contact information of two possible referees

The deadline for registration to the offer ends on February 12th, 2021 at 12 noon.

Application will be reviewed by CIMNE Severo Ochoa selection committee.

The shortlisted candidates may be called for an interview. They may also be required to provide further supporting documentation.

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CIMNE is an equal opportunity employer committed to diversity and inclusion. We are pleased to consider all qualified applicants for employment without regard to race, colour, religion, sex, sexual orientation, gender identity, national origin, age, disability or any other basis protected by applicable state or local law. CIMNE has been awarded the HRS4R label.