# VAC-2019-53 – Severo Ochoa PostDoc Researcher Position in Innovative Algorithms for Fast Accurate Computing Group

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 Technical University of Catalunya, 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 Researcher (PDOC1)

**Workplace:** Barcelona

**Salary (gross):** 36.504,81 EUR

**Weekly working hours:** Full time

**Duration:** 3 years

## Functions to be developed

CIMNE is looking for a **Postdoc Researcher** to be part of the Research and Technical Development (RTD) Group on Innovative Algorithms for Fast Accurate Computing Group.

This research group is active on different topics related to the development of innovative simulation algorithms, including high-fidelity numerical methods for time-dependent partial differential equations and machine learning techniques in computational science and engineering, for complex physical and industrial problems involving solids, fluids and electromagnetics phenomena. The candidate will integrate a very dynamic research team of recognized experts and collaborate with their research network, featuring academic and industrial partners, in Europe and worldwide. She/He will have access to state-of-the-art research and computing facilities. The postdoc researcher is expected to develop high-quality research in computational science and engineering, applied to specific fields of interests such as automotive, aeronautical and aerospace engineering, material and energy science. He/She will present the obtained results in international conferences, contribute to the writing of technical reports and scientific articles for high-impact international journals and participate to the submission of research proposals for competitive project funding.

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Barcelona, Spain

A Consortium of

**Generalitat de Catalunya**

**UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH** UPC

In cooperation with:

UNESCO

The functions assigned to the candidate will be:

- Plan and conduct high quality research in collaboration with Severo Ochoa IPs
- Collaborate and foster new cooperation with European and International research groups and institutions
- Help supervise MSc and PhD students
- Document and disseminate the research results within CIMNE and externally
- Publish in high impact journals (a minimum of 2 papers/year is envisaged)
- Participate in research projects and contracts of interest for the RTD Group
- Submit competitive RTD research proposals
- Collaborate in the active search of funding resources for the research group
- Collaborate in training activities

## Requirements

- Having obtained a PhD degree in Applied Mathematics, Computational Science and Engineering or related discipline at least 2 years before the application deadline
- Good publication record (a minimum of 10 papers published in indexed journals)
- High working knowledge of English, both written and spoken.
- Excellent knowledge of numerical methods for the approximation of partial differential equations (in particular, the finite element method).
- Knowledge of computational fluid dynamics, 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 or academic experience in the field of the position
- Previous post doc stages at an entity, different to the one where the PhD was awarded
- Good programming skills
- Extra language skills
- Good communication/Teaching skills
- Curiosity and commitment to develop high-quality research.
- Hard-working and enthusiastic attitude towards research and innovation.
- Flexibility and ability to work in an interdisciplinary team.
- Commitment to transversal research combining fundamental academic contributions and practical industrially oriented applications.

## 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 (30%)
- Previous research and academic experience in the field of the position (20%)
- Post doc stages (15%)
- Programming skills (15%)
- Language skills (10%)
- Communication/Teaching skills (10%)

## How to apply

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

- Curriculum vitae, including Researcher's ID or ORCID No.
- A motivation letter, including a brief summary of work experience and a statement of research interests and career goals.
- Academic transcripts from all Undergraduate, MSc and PhD degrees.
- At least three reference letters.

The deadline for registration to the offer ends on **January 31, 2020 at 12:00 noon**.

Applications will be reviewed by CIMNE Severo Ochoa selection committee. The shortlisted candidates may be called for an interview and must send to seleccio@cimne.upc.edu all the proving documentation of the requirements and merits, if not already submitted during the application phase.

*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.*

Centre Internacional de Mètodes Numèrics a l'Enginyeria ® Q5850006G

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