

446_24_ES_EMW_RE2

Job Reference

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Position

Developer for Earth Sciences applications (RE1-RE2/R2)

Data de tancament

Dilluns, 16 Setembre, 2024

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Job title: Developer for Earth Sciences applications (RE1-RE2/R2)

About BSC

The Barcelona Supercomputing Center - Centro Nacional de Supercomputación (BSC-CNS) is the leading supercomputing center in Spain. It houses MareNostrum, one of the most powerful supercomputers in Europe, was a founding and hosting member of the former European HPC infrastructure PRACE (Partnership for Advanced Computing in Europe), and is now hosting entity for EuroHPC JU, the Joint Undertaking that leads large-scale investments and HPC provision in Europe. The mission of BSC is to research, develop and manage information technologies in order to facilitate scientific progress. BSC combines HPC service provision and R&D into both computer and computational science (life, earth and engineering sciences) under one roof, and currently has over 1000 staff from 60 countries.

Look at the BSC experience:

[BSC-CNS YouTube Channel](#)

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We are particularly interested for this role in the strengths and lived experiences of women and underrepresented groups to help us avoid perpetuating biases and oversights in science and IT research. In instances of equal merit, the incorporation of the under-represented sex will be favoured.

Context And Mission

The Earth Sciences Department at the Barcelona Supercomputing Center (BSC) (www.bsc.es) is embarking on an umbrella of large-scale activities and developments linked to the implementation of a High-Resolution Emission System for Air Quality Prediction and Greenhouse Gas Monitoring. These activities are part of a large initiative on the “Modernization of observation networks and digitalization of production processes for the development of intelligent meteorological services in the context of climate change” in the framework of

the European Recovery, Transformation, and Resilience Plan funded by the European Union-Next Generation EU.

In this ambitious and potentially rewarding endeavor, we need a variety of researchers, and research engineers in computer science. The applicants would ideally have interest in the computational performance improvement and modularization of Atmospheric composition and emission models

Key Duties

- Take a lead role in refactoring and modularizing the existing atmospheric composition model written in Fortran, focusing on improving code quality and maintainability.
- Develop highly scalable and robust code structures, integrating testing methodologies in the process.
- Optimizing applications to efficiently run on supercomputers based on CPUs, using MPI and OpenMP

Requirements

- Education
 - Bachelor's in Computer Science, Engineering, Mathematics, Physics, or related field.
 - A Master's or is highly valued.
- Essential Knowledge and Professional Experience
 - Proficiency in high-level computer languages, especially Fortran and C/C++.
 - Demonstrable experience or strong knowledge in refactoring large-scale HPC codes.
 - Proven experience optimizing and running scientific codes on large HPC systems.
 - In-depth understanding of HPC architecture and expertise in parallel programming (MPI, OpenMP).
 - Extensive experience in UNIX/LINUX environments.
 - Proficient in managing collaborative projects with Git or similar version control systems.
 - Adherence to coding and documentation best practices and standards.
- Additional Knowledge and Professional Experience
 - Fluency in English; Spanish language proficiency is optional (free lessons available after joining).
- Competences
 - Strong interpersonal skills to collaborate effectively with a diverse team.
 - Excellent written and verbal communication skills.
 - Ability to take initiative, prioritize tasks, and meet deadlines.
 - Capable of working both independently and collaboratively within a team environment.

Conditions

- The position will be located at BSC within the Earth Sciences Department
- We offer a full-time contract (37.5h/week), a good working environment, a highly stimulating environment with state-of-the-art infrastructure, flexible working hours, extensive training plan, restaurant tickets, private health insurance, support to the relocation procedures
- Duration: Open-ended contract due to technical and scientific activities linked to the project and budget duration
- Holidays: 23 paid vacation days plus 24th and 31st of December per our collective agreement
- Salary: we offer a competitive salary commensurate with the qualifications and experience of the candidate and according to the cost of living in Barcelona
- Starting date: ASAP

Applications procedure and process

All applications must be made through BSC website and contain:

- A full CV in English including contact details
- A Cover Letter with a statement of interest in English, including two contacts for further references - Applications without this document will not be considered

In accordance with the OTM-R principles, a gender-balanced recruitment panel is formed for every vacancy at the beginning of the process. After reviewing the content of the applications, the panel will start the interviews, with at least one technical and one administrative interview. A profile questionnaire as well as a technical exercise may be required during the process.

The panel will make a final decision and all candidates who had contacts with them will receive a feedback with details on the acceptance or rejection of their profile.

At BSC we are seeking continuous improvement in our recruitment processes, for any suggestions or feedback/complaints about our Recruitment Processes, please contact recruitment [at] bsc [dot] es.

For more information follow [this link](#)

Deadline

The vacancy will remain open until a suitable candidate has been hired. Applications will be regularly reviewed and potential candidates will be contacted.

OTM-R principles for selection processes

BSC-CNS is committed to the principles of the Code of Conduct for the Recruitment of Researchers of the European Commission and the Open, Transparent and Merit-based Recruitment principles (OTM-R). This is applied for any potential candidate in all our processes, for example by creating gender-balanced recruitment panels and recognizing career breaks etc.

BSC-CNS is an equal opportunity employer committed to diversity and inclusion. We are pleased to consider all qualified applicants for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability or any other basis protected by applicable state or local law.

For more information follow [this link](#)

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