

969_24_ES_CES_RE2

Job Reference

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Position

Research engineer - Streaming Workflows Engineer (RE2)

Fecha de cierre

Viernes, 03 Enero, 2025

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Job title: Research engineer - Streaming Workflows Engineer (RE2)

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](#)

[Let's stay connected with BSC Folks!](#)

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.

We promote Equity, Diversity and Inclusion, fostering an environment where each and every one of us is appreciated for who we are, regardless of our differences.

If you consider that you do not meet all the requirements, we encourage you to continue applying for the job offer. We value diversity of experiences and skills, and you could bring unique perspectives to our team.

Context And Mission

Within the Computational Earth Sciences group, the selected candidate will be part of the Models and Workflows team, to contribute to the development of software to run end-to-end workflows for Digital Twins in the most modern High-Performance Computing facilities.

The Models and Workflows team (MWT) is dedicated to the research and development of essential frameworks and tools to efficiently run modeling experiments on HPC installations. The team is made up of 20 members and has an intense collaboration with the Performance and Data teams, as well as with the scientific groups.

The candidate will be part of a team working on the development of modeling workflows for state-of-the-art climate models. The candidate will lead the deployment of interfaces for efficient integration of online user applications in the workflow. These workflows will be executed using the Autosubmit workflow orchestrator, developed by the BSC, and will allow production experiments in the framework of Destination Earth, to be scaled and run on the upcoming EuroHPC Pre-Exascale systems.

<https://www.bsc.es/research-development/research-areas/computational-earth-science/earth-sciences-models-workflows>

Key Duties

- Lead the deployment of solid and user-friendly software to interact with the Digital Twins
- Develop and maintain the software stack and workflow scripts and libraries to process the model data and integrate user applications, on state-of-the-art HPCs.
- Contribute to the execution of automated unit and integration tests.
- Collaborate with the team in an Agile framework and attend project meetings with members of the department and other institutions for the project interest.
- Contribute to the porting and testing of workflows and user applications in Pre-Exascale systems.

Requirements

- Education
 - Having a Bachelor in Computer Science, Telecommunications, Physics or related discipline.
 - Having a Master's degree will be valued.
- Essential Knowledge and Professional Experience
 - Good development skills and experience with UNIX/LINUX environments.
 - Understanding of HPC computer architecture issues including CPU, accelerators, memory, interconnect, parallel I/O, and computational performance
 - Knowledge of development and execution of scientific applications on parallel computers.
- Additional Knowledge and Professional Experience
 - Experience in version control in a collaborative environment, including SVN or Git.
 - Experience in Python programming and/or scripting languages (Bash).
 - Experience working with Earth Digital Twins
 - The BSC Earth Sciences department is an international and interdisciplinary environment, so the candidate must be fluent in English and have good written and verbal skills.
- Competences

- Earth system models are sophisticated tools and High-Performance Computers are complex systems. The candidate needs to have excellent problem-solving skills and a proactive attitude to address new challenges and perfect the current solutions so they gain reliability and efficiency.
- This is a specialized position so the successful candidate is expected to have a demonstrated learning capacity and the motivation to maintain a learning progression during the contract.
- The candidate will work for an international collaborative project, so it is mandatory to be able to fulfill schedules and coordinate with members from other institutions, as well as disseminate the advances in international workshops.

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](#)

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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