Job Reference

216_22_ES_CP_RE1

Position

Earth System Model applications development engineer

Data de tancament

Dimecres, 16 Novembre, 2022
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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, and is a hosting member of the PRACE European distributed supercomputing infrastructure. 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 770 staff from 55 countries.

Look at the BSC experience:
BSC-CNS YouTube Channel
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Context And Mission

Within the Computational Earth Sciences group, the successful candidate will be part of both the Models and Workflows team and the Performance team, being in charge of development, maintenance and porting of the Earth System Models EC-Earth3 and EC-Earth4 in different High Performance Computing facilities.

The Models and Workflows team devotes to the research and development of methodologies and tools essential to efficiently use the variety of computing resources available at the BSC and in other HPC institutions. The Performance Team performs R&D tasks in the field of Earth Science Model (ESM) performance: its goal is to identify model bottlenecks and research how to remove them. The candidate will work closely with the Climate Variability and Change group assisting in a variety of scientific topics.
including climate prediction, global carbon cycle, and climate change mitigation and adaptation.

The successful candidate will work within the EC-Earth Earth System Model ecosystem, which is developed and maintained by various institutions in Europe, with important contributions from the BSC. EC-Earth3 is an established model with a solid in-house supporting software stack. EC-Earth4 is the newest model cycle with important structural changes to improve scalability, performance and model complexity. The candidate will provide support for technical developments, participate in the development, testing and optimization of EC-Earth4 on a number of HPC platforms, port existing functionalities and integrate new ones. These model configurations will run on state of the art systems such as the upcoming EuroHPC Pre-Exascale computers.

We are committed to promote gender equality and equal opportunities at all levels and hence encourage women and underrepresented groups to apply. Junior and Senior applications will be equally considered.

Key Duties

- Scale, Optimize and contribute to the development of EC-Earth4 on a number of HPC platforms.
- Port existing technical functionalities from previous model versions and integrate new ones.
- Conduct performance and load balancing studies for specific use cases.
- Integration, maintenance and updates of Earth System Model components.
- Provide technical support to scientists in their model implementations.

Requirements

- Education
  - Having a Bachelor in Computer Science, Telecommunications, Physics or related discipline.
  - Having a Master’s or a PhD 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 in development and execution of scientific applications with parallel computing.

- 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).
  - Previous experience in a scientific area related to the research position will be appreciated.
  - 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
  - Excellent problem-solving skills and a proactive attitude to address new challenges and perfect the current solutions to gain reliability and efficiency.
  - A demonstrated learning capacity and motivation to maintain a learning progression during the contract.
  - Good organizational skills to fulfill schedules and coordinate with members from other institutions/workshops.
  - Good communication skills to 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, a good working environment, a highly stimulating environment with state-of-the-art infrastructure, flexible working hours, extensive training plan, tickets restaurant, private health insurance, fully support to the relocation procedures
- Duration: Open-ended contract due to technical and scientific activities linked to the project and budget duration
- 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: As soon as possible, ideally before the end of 2022

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 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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