280_24_LS_CB_RE2

Job Reference

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Position

Research Engineer for multiscale simulations in biomedicine (RE2)

Data de tancament

Diumenge, 01 Setembre, 2024
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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, 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

The Computational Biology group, under the leadership of ICREA Professor Alfonso Valencia, is looking for a Research Engineer specialising in multiscale cellular simulations. This role focuses on leveraging high-performance computing to develop advanced biomedical applications.

The successful candidate will join a highly dynamic and multidisciplinary research group within the Life Sciences department, which integrates independent senior scientists who work on various aspects of computational biology, ranging from genomics and proteomics to computational biochemistry and text mining. The Researcher Engineer will work in a highly sophisticated HPC environment, having access to systems and computational infrastructures that foster collaborations with experts in different areas. The candidate will work closely with senior researchers José Carbonell Caballero and Miguel Ponce-de-Leon in the Computational Biology Group (http://life.bsc.es/compbio) of the Life Sciences Department. Also, the selected candidate will interact with other departments at the BSC, especially Computer Science (with the Workflows and Distributed Computing group and Performance Tools group) and Operations Department (with the High-Level Support Team), as well as external collaborators such as Arnau Montagud at I2sysbio.

The candidate's role is embedded within the main group's research lines. In particular, the selected candidate will develop and apply modelling and simulation techniques to biological networks, forecasting the effects of alterations and drug treatments on system dynamics. In addition, the selected candidate will have a critical role in the design and implementation of multiscale cellular simulations with a strong computational perspective. This approach will enable the modelling and simulation of complex systems representing relevant use cases in molecular biology and personalised medicine, such as tumour evolution or viral infections. In addition, the candidate will work on the integration of cellular systems with organ-level simulations, thus contributing to the creation of digital twins in the biomedical area.

Key Duties

- Organise the design and implementation of specific benchmarks to evaluate flagship multiscale simulation tools.
- Apply code refactoring and optimization for enhance parallel and distributed computing
- Development of new features and extensions in existing software
- Participation in international projects

Requirements

- Education
  - BSc in Engineering (Computer science or similar).

- Essential Knowledge and Professional Experience
  - Programming languages: C++, Python, Julia or similar.
  - Experience integrating parallelisation frameworks (e.g. OpenMP or MPI).
  - Vast experience working with Unix/Linux systems.
  - Knowledge of HPC environments and queueing systems.
  - Vast experience with version control systems (e.g. git).

- Additional Knowledge and Professional Experience

    - Modelling and simulation of biological use cases.
    - Computational workflows and containerisation technologies.
    - Experience connecting different simulation tools working at different temporal and spatial scales.
    - Native or good level spoken and written English.

- Competences
    - Ability to understand scientific literature and software documentation.
    - Ability to communicate scientific results.
    - Ability to work within a team and independently.
    - Ability to interact with international partners.
    - Ability to discuss strategic research lines within the group.

Conditions

- The position will be located at BSC within the Life 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: 01/10/2024

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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