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**Job Reference**

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**Position**

Exascale Supercomputer OpenMP Runtime Software Development Engineer (RE12)

**Data de tancament**

Divendres, 31 Gener, 2020

**Reference:** 292_19_CS_GCS_RE12  
**Job title:** Exascale Supercomputer OpenMP Runtime Software Development Engineer (RE12)

**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 600 staff from 49 countries.

Look at the BSC experience:  
[BS-CNS YouTube Channel](https://www.youtube.com/user/BS-CNS)  
[Let's stay connected with BSC Folks!](https://www.bsc.es/)

**Context And Mission**

BSC is looking for talented and motivated professionals with expertise in supporting and porting OpenMP parallelism across a variety of HPC architectures, in particular, targeting a RISC-V-based ISA for a European HPC accelerator. This is a NEW project to build the software infrastructure and toolchain for an FPGA-based emulator for an energy-efficient Exascale system.

**Key Duties**
• Design, implement, test, debug, tune, and maintain a RISC-V-based OpenMP implementation, which includes compiler and runtime library support for both CPU and GPU-like and other architectures.
• Be responsible for the full software development lifecycle - designing, development, testing, and operating scalable systems in production.
• Architect solutions to achieve a high level of reliability, scalability and security.

Requirements

• Education
  ○ Ph.D. in Computer Science or related Engineering degree or equivalent level of professional experience.

• Essential Knowledge and Professional Experience
  ○ Experience with OpenMP, or another on-node shared-memory parallel programming model (e.g., pthreads, C/C++ threading, etc.).
  ○ Familiarity with GPU architectures and programming models (e.g., CUDA, OpenCL, OpenACC, OpenMP 4.5/5.0 offloading, etc.).
  ○ Commitment to sound software engineering principles and outstanding problem-solving skill.
  ○ An intimate understanding of distributed-memory and shared-memory parallelism and a proven ability to port complex software packages between computer architectures.
  ○ Agile development and open source development, deployment, and support, including GitHub or equivalent.
  ○ Open source software committer a plus.
  ○ Proficient in Microsoft Office applications or equivalent.
  ○ Fluency in English is essential, Spanish is welcome.

• Competences
  ○ The candidate must be an effective communicator, multitask, and work well on collaborative designs.
  ○ Keeps abreast of technology trends.
  ○ Ability to think creatively.
  ○ Ability to work independently and make decisions.
  ○ Ability to take initiative, prioritize and work under set deadlines and pressure.

Conditions

• The position will be located at BSC within the Computer 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: Temporary - 2 - 3 years renewable
• 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

All applications must include:

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

Deadline

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

Diversity and Equal Opportunity Employment

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.

This position is reserved for candidates who meet the requirements and have the legal status of disabled persons with a degree of disability equal to or greater than 33%. In case there are no applicants with disabilities that meet the requirements, the rest of the candidates without declared disability will be evaluated.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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