

JOB DESCRIPTION

Ref: PhD_M.HPC

Job Title: PhD student for project “Memory Systems for High Performance Computing”.

About BSC:

BSC-CNS (Barcelona Supercomputing Center – Centro Nacional de Supercomputación) is the National Supercomputing Facility in Spain and was officially constituted in April 2005. BSC-CNS manages MareNostrum, one of the most powerful supercomputers in Europe, located at the Torre Girona chapel. The mission of BSC-CNS is to investigate, develop and manage information technology in order to facilitate scientific progress. With this aim, special dedication has been taken to areas such as Computer Sciences, Life Sciences, Earth Sciences and Computational Applications in Science and Engineering. Look at the BSC experience: <https://www.youtube.com/watch?v=VRkEii7OzRE>

Context and Mission:

The Memory systems team^[1] from the Computer Science Department at the Barcelona Supercomputing Center^[2] is offering a full-time PhD student position. The student will work on the collaborative project between BSC and Samsung that analyses memory systems for high-performance computing. We strongly encourage the application of candidates who are interested in a close collaboration with industry and contact with cutting edge technology developers. Also, the successful candidate will be enrolled in the doctorate program in the Department of Computer Architecture at Universitat Politècnica de Catalunya^[3], Barcelona, Spain.

Key Duties

- Characterization of memory behavior of high-performance computing applications
- Analysis and simulation of novel memory technologies, protocols and interfaces
- Writing technical papers and dissemination of the project results

Requirements

- **Education**
 - M.Sc in Computer Science or a related discipline
 - Candidates with B.Sc in computer science and outstanding academic record are also encouraged
- **Knowledge**

We seek a highly motivated and academically excellent student with:

- Knowledge of computer architecture.
- Skills in programming languages (C/C++, Python).
- Understanding of memory systems and memory technologies (e.g. DRAM) is a plus.

- Fluency in English is essential.

- **Professional Experience**
 - Experience with Unix/Linux environments.
 - Experience with hardware/system simulators is a plus.

- **Competences**
 - Excellent written and verbal communication skills.
 - Ability to take initiative.

Conditions

The position will be located at BSC within the Computer Sciences department in collaboration with the specific program coordinator. The fellowship will be for one year renewable.

Applications Procedure

All applications must be applied in <http://www.bsc.es/about-bsc/employment/vacancies/phdmhpc> including:

1. A motivation letter
2. A full CV including contact details
3. Two reference letters.

[1] www.bsc.es/computer-sciences/computer-architecture/memory-systems

[2] www.bsc.es

[3] www.ac.upc.edu/en