

The mission of the Catalan Institute of Nanoscience and Nanotechnology (ICN2) is to achieve the highest level of scientific and technological excellence in Nanoscience and Nanotechnology. Its research lines focus on the newly-discovered physical and chemical properties that arise from the behavior of matter at the nanoscale. ICN2 has been awarded with the Severo Ochoa Center of Excellence distinction for two consecutive periods (2014-2018 and 2018-2022). ICN2 comprises 17 Research Groups, 7 Technical Development and Support Units and Facilities, and 2 Research Platforms, covering different areas of nanoscience and nanotechnology.

Job Title: Software Engineer

Research area or group: Theory and Simulation Group

Description of Group/Project:

The Theory and Simulation Group at ICN2 is offering a software engineer position to work on an interdisciplinary project, developed by ICN2 and [BSC-CNS](#) on cutting edge HPC applications. Specifically, the contract is tied to a European Project (the MaX Center of Excellence on Materials Design at the eXascale (<http://www.max-centre.eu/>) and will be temporary.

Main Tasks and responsibilities:

The candidate will work on the optimization and porting to high-performance hardware of SIESTA (<http://icmab.es/siesta>) one of the most popular Open Source software for materials science. The candidate will work in close cooperation with the core developers of the code.

- Develop and optimize code using state-of-the-art programming models and distributed paradigms.
- Explore the behavior of the applications on new emerging HPC hardware.
- Coordinate work with other developers of the software.

Requeriments:

- **Education**
 - Degree in Informatics or similar field
- **Knowledge and professional experience**
 - Linux/UNIX OS, Shell scripting and command line
 - Experience with Fortran and python programming languages are a requisite.
 - Knowledge, to some extent, about some or all the following programming models:
 1. MPI (must have)
 2. OpenMP (must have)
 3. CUDA (must have)
 4. OpenCL
 5. OpenAcc
 6. High level of English, both oral and written

- Experience with HPC environments, both as user and software developer, are preferable for architectures such as:
 1. Intel's General Purpose Processors (e.g. Xeon)
 2. GPUs (NVIDIA preferred)
- **Competences**
 - Great ability for team work
 - Natural proactive character
 - Ability to work with strict deadlines and deliverables

Research Career Profile (According to the European Framework for Research Careers):

R1 First Stage Researcher

Summary of conditions:

- Full time work (37,5h/week)
- Contract Length: 30 months approximately.
- Salary will depend on qualifications and demonstrated experience.
- Support to the relocation issues.
- Life Insurance.

Estimated Incorporation date: As soon as possible.

How to apply:

All applications must be made via the ICN2 website <https://jobs.icn2.cat/job-openings/178/software-engineer> and include the following:

1. A cover letter.
2. A full CV including contact details.
3. 2 Reference letters or referee contacts.

Equal opportunities:

ICN2 is an equal opportunity employer committed to diversity and inclusion of people with disabilities.