

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 behaviour of matter at the nanoscale. ICN2 has been awarded with the Severo Ochoa Center of Excellence distinction for three consecutive periods (2014-2018 and 2018-2022 and 2023-2026). ICN2 comprises 19 Research Groups, 7 Technical Development and Support Units and Facilities, and 2 Research Platforms, covering different areas of nanoscience and nanotechnology.

Job Title: Postdoctoral Researcher

Research area or group: Theoretical and Computational Nanoscience Group

Description of Group/Project:

AI4SPIN is a project that aims to address the pressing issue of global energy consumption by innovating in the realm of ultra-low-power electronics, specifically focusing on spin-orbit torque (SOT) memories. Leveraging the promise of 2D materials, this project seeks to automate and optimize the material selection phase using AI-driven tools, aiming to achieve higher energy efficiency in spintronic applications.

Main Tasks and responsibilities:

The researcher will deploy linear scaling quantum transport methodology within a high throughput to generate the dataset required for machine learning and artificial intelligence algorithms. The researcher therefore will have to develop, test, and evaluate different algorithms as well as to make it compatible with the AiIDA infrastructure for high throughput.

Requirements:

- **Education:** PhD in Physics
- **Knowledge:**
Quantum transport, C/C++ programming, Python programming.
Excellent level of English
- **Professional Experience:** Software developing.

Summary of conditions:

- Full time work (37,5h/week)
- Contract Length: Temporary (3 years)
- Location: Bellaterra (Barcelona)
- 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/569/postdoctoral-researcher-theoretical-and-computational-nanoscience-group> and include the following:

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

Deadline for applications: 10 January 2024

Applications will be continuously reviewed. Shortlisted candidates will be invited for interview

Equal opportunities:

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

ICN2 is following the procedure for contract of people with disabilities according with article 59 of the Royal Decree 1/2015, of 30 of October.