

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 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: Physics and Engineering of Nanodevices

Description of Group/Project:

Nanotechnology, ICN2) is seeking to appoint a creative and motivated postdoctoral researcher to participate in an ongoing project on spin transport and proximity effects using van der Waals heterostructures. The appointed candidate will be responsible for the design and detailed characterization of devices comprising materials such as graphene, 2D ferromagnets, topological insulator compounds and/or transition metal dichalcogenides. S/he will carry out process development, documentation of processes and implement the required steps to fabricate the devices using exfoliation methods and deterministic transfer in inert environment. S/he characterizes the devices, investigate quantum (spin) transport and seek to understand and maximise the spin-orbit and magnetic proximity effects within selected heterostructures. S/he is expected to collaborate with other PEN members focused on related topics. Starting date: September 2022.

Main Tasks and responsibilities:

- 2D material manipulation. Exfoliation and deterministic transfer.
- Device fabrication (e-beam lithography, material deposition, etc)
- Experience in nonlocal spin injection and detection devices
- Magnetotransport measurements in cryogenic environment

Requirements:

• **Education**

A PhD degree in Physics, Material Science, Nanotechnology or related discipline.

• **Knowledge, professional experience and competences**

A strong background on solid-state physics and experience in 2D materials manipulation, spintronics and electrical characterization will be highly valued.

Applicants must show motivation, excellent disposition towards challenging research problems.

Good level of the English language

Summary of conditions:

- Full time work (37,5h/week)
- Contract Length: Temporary (One year with possible extension)
- 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/388/postdoctoral-researcher-physics-and-engineering-of-nanodevices-group> and include the following:

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

Applications will be evaluated as they are received

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.