

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: Advanced Electronic Materials and Devices

Description of Group/Project:

"The Advanced Electronic Materials and Devices (AEMD) group focuses on the material sciences and technology aspects of novel electronic materials, with a strong emphasis on graphene as well as other 2D materials (MoS₂). The group also works towards the development of technological applications based on these materials such as electronics, bioelectronics and biosensing, neural interfaces, etc.

The activities cut across different scientific aspects, from the fundamentals (the physics of devices and semiconductors) to materials (growth of graphene and MoS₂ materials by CVD and MOCVD, surface functionalisation, advanced characterisation), through to devices (fabrication technology, nanofabrication) and applications (neural implants and biomedical technologies, biosensors, flexible electronics). "

Main Tasks and responsibilities:

The candidate will be working in the development of large scale flexible graphene based technology. The researcher will be in charge of growing the material and characterize them additionally to the development of novel protection strategies to keep the materials quality along the fabrication process. Apart from the graphene material, the researcher will investigate the development and integration of other thin film materials, such as metals and dielectrics. Specifically, the researcher will focus on (1) graphene growth and transfer to transparent flexible substrates (2) thin film technology development and (3) advanced morphological and electrical characterization.

The research activity of the candidate will be funded by the European Union, through " Project Graphene-based Artificial Iris for Active light management in a smart contact lens" with reference number 101158723. The ultimate goal of the GAIA project is to develop medical optical systems with ultra-low power consumption, and unprecedented transparency and flexibility by the combination of the artificial iris management technology based on liquid crystal cells with the graphene microfabrication technology.



Funded by the
European Union

Requirements:

- **Education:** Master in Materials Science, Nanotechnology, or equivalent degrees
- **Knowledge and Professional Experience:**
 - Experience in 2D materials synthesis and thin film technology
 - Experience in clean room micro/nanofabrication

Experience with characterization tools (Raman, CQMB, AFM, etc.)
Experience in programming (LabView, Python, C++, Matlab)

- **Personal Competences:**

Teamwork skills
Fluent English (both spoken and written)

Summary of conditions:

- Full time work (37,5h/week)
- Contract Length: Temporary (2 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/615/postdoctoral-researcher-advanced-electronic-materials-and-devices> 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 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.