

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 20 Research Groups, 7 Technical Development and Support Units and Facilities, and 2 Research Platforms, covering different areas of nanoscience and nanotechnology.

Job Title: Research Support Technician

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 researcher main role will be in the development of neural implants with electrical recording and stimulating capabilities. The researcher will receive expert training in graphene electronics technology for neural interfacing, thin-film technology and nanofabrication, morphological characterization techniques and neural data analysis.

The researcher will specialize in multiple facets of neural interfaces development and validation. Specifically, the researcher will focus on (1) full characterization of graphene materials and (2) fabrication and characterization of graphene based electrodes.

Within the frame of the Graphene Flagship Core 3 project, the mission of this position is to develop graphene based electrodes for neural stimulation. Study the impact of the graphene flake size on the final performance of the device. Up to three different flake sizes will be evaluated. Graphene based mm-size electrodes will be fabricated from three graphene oxide solutions. Morphological and electrochemical characterization will be performed for the three type of electrodes.

Requirements:

- **Education:**
Master in Electrochemistry
- **Skills:**
Teamwork skills

- **Professional Experience:**

Extensive experience in electrochemical tools

Experience in characterization techniques, including XPS, Raman, SEM, AFM and XRD

Fluent English both spoken and written

Summary of conditions:

- Full time work (37,5 h/week)
- Contract Length: Permanent
- 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 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: 3rd October 2022

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.