ICN2 is a renowned research centre. Its research lines focus on the newly discovered physical and chemical properties that arise from the behaviour of matter at the nanoscale.

The Institute promotes collaboration among scientists from diverse backgrounds (physics, chemistry, biology, and engineering) to develop basic and applied research, while seeking out new ways to interact with local and global industry.

It also offers researchers training in nanotechnology, develops numerous activities to promote and enable the uptake of nanotechnology by industry, and promotes networking among scientists, engineers, technicians, business people, society, and policy makers.

ICN2 was accredited in 2014 as a Severo Ochoa Centre of Excellence and is a founding member of the Barcelona Institute of Science and Technology (BIST). The aim of the Severo Ochoa Program, sponsored by the Spanish Ministry of Economy, Industry and Competitiveness, are to identify and support those Spanish research centres that demonstrate scientific leadership and impact at global level.

**Job Title: POSTDOCTORAL RESEARCHER**

**Research area or group:** Advanced Electronic Materials and Devices Group

**Description of Group/Project:**

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 of the AEMD group cut across different scientific aspects, from the fundamentals (the physics of devices and semiconductors) to materials (growth of graphene and 2D materials by CVD, surface functionalisation, advanced characterisation), through to devices (fabrication technology, nanofabrication) and applications (biosensors, neural implants and biomedical technologies, energy storage and conversion).

**Main Tasks and responsibilities:**

This research programme is part of the European project BrainCom (www.braincom-project.eu), which aims at developing a new generation of brain-computer interfaces for cognitive neuroscience and rehabilitation of speech, and the Graphene Flagship (https://graphene-flagship.eu/project/divisions/Pages/biomedicalapplications.aspx).

Within this research programme, the successful candidate will be involved in activities related to the design, fabrication and assessment of a variety of technologies and devices that are at the core of neural interfaces, including:

(i) flexible arrays of graphene-based microsensors for brain monitoring
(ii) flexible electronics based on 2D semiconductors (e.g. MoS2) for ultraslim neural interfaces
Apart from contributing to the developments in material science and device technology, the candidate will have the opportunity of designing and conducting preclinical and, eventually, clinical assessment of these technologies.

**Education, Experience, Knowledge and Competences required:**

- **Education**
  - PhD in Electrical Engineering, Physics, Nanotechnology of equivalent

- **Knowledge**
  - Experience in materials science, in particular 2D materials.
  - Device/semiconductor technology (cleanroom experience will be very valued) and physics
  - Experience in neural interface devices for stimulation and recording, bioelectronics, biosensors, etc.
  - Advanced knowledge in the design of data acquisition and data analysis software (Python, Labview, Labwin)

- **Professional Experience**
  - At least two years experience in collaborative projects.
  - Experience in leading projects will be valued.

- **Competences**
  - Proficiency in English
  - Teamwork skills very valued

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

R2 Recognised Researcher

**Summary of conditions:**

- Full time work (37.5h/week)
- Contract Length: 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/176/postdoctoral-researcher-in-advanced-electronic-materials-and-devices-group](https://jobs.icn2.cat/job-openings/176/postdoctoral-researcher-in-advanced-electronic-materials-and-devices-group) and include the following:

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

New Deadline for applications: April 23.

**Equal opportunities:**

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