As a flagship research center in nanoscience and nanotechnology, our mission is to open and explore new frontiers of knowledge at the nanoscale, and bring value to society in the form of new understanding, capabilities and innovation, while inspiring and providing broad training to the next generations of researchers.

Our 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: Postdoctral researcher in 2D material-based enviromental sensors- Thermal Properties of Nanoscale Materials

Research area or group: Thermal Properties of Nanoscale Materials

Description of Group/Project:
The MOCCASIN-2D project aims at addressing these needs by developing selective solid-state gas sensors for their incorporation into an electronic nose for the monitoring of GHGs. The basic materials for the development of these devices are two-dimensional transition metal dichalcogenides (TMDs), such as MoS_2, WS_2 or $MoSe_2$.
The general objective of the coordinated project is to develop a novel platform for the monitoring of climate change gases in which an array of sensing devices, based on 2D materials and constituting an electronic nose, are integrated. The combined implementation of the various sensors will provide an overall picture of the environmental status at a given test location.

Main Tasks and responsibilities:
The candidate will incorporate in the MOnitoring Climate Change gASes wIth seNsors based on 2D materials (MOCCASIN-2D) project.
The main tasks include:
- design and fabrication of conductometric humidity sensors based on 2D materials
- setting up impedance spectroscopy measurements
- characterization of the sensors in the humidity-controlled chamber
- integration of the sensors in the 'electronic nose' device

Requirements:

- **Education:** PhD degree in Physics, Chemistry, Material Science or Engineering
- **Knowledge and professional experience:**
  Hands-on experience in electrical characterization techniques for sensors.
  Experience in 2D material synthesis and nanofabrication.
  Experience in structural characterization techniques for 2D materials (Raman, TEM, SEM, AFM)
- **Personal Competences:**
  Excellent organizational and time-management skills, including the ability to deliver timely and high-quality outputs.
  Ability to demonstrate scientific writing and communication skills in English.
  Ability to work independently, use own initiative, where appropriate, and be proactive in approach to work

Summary of conditions:

- Part time work
- Contract Length: 10 mpnths
- Location: Bellaterra (Barcelona)
- Salary will depend on qualifications and demonstrated experience.
- Support to the relocation issues.
- Life Insurance.
- Flexible compensation plan

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: 21/10/2024

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.