

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: PhD on in-situ (S)TEM (electro)catalysis for energy and environmental materials

Research area or group: Advanced Electron Nanoscopy

Description of Group/Project:

The candidate will work at the ICN2 and the ALBA Synchrotron developing correlative (S)TEM in-situ experiments on catalysts, from SACs to multiple types of nanostructures. This position is linked to the AMADE PID2023 project funded by AEI / MCIN, led by Prof. Jordi Arbiol and Dr. Alba Garzón Manjón. The objective is to enable correlative in-situ (S)TEM experiments for addressing some of the scientific challenges of the European Green Deal plan, to promote a more sustainable EU economy.

The project outputs are envisioned as a key tool to tackle advanced characterization challenges, down to the atomic scale, of Advanced Materials analysed under working conditions/in-situ/operando, and under selected gas or liquid conditions.

Main Tasks and responsibilities:

The hired PhD will work with the new in-situ STEM equipment at the ALBA Synchrotron.

The main tasks will be:

- Work on the already existing advanced STEM and FIB equipment for the analysis of energy nanomaterials for catalysis and energy applications.
- Design in-situ experiments with the available gas and liquid TEM sample holders.
- Carry out in-situ experiments from the project partners materials and samples.

Requirements:

- **Education:**
BSc and/or MSc in Chemistry, Materials Science, Physics, Nanotechnology or equivalent.
- **Knowledge and Professional Experience:**
Interest of learning (S)TEM, EM related spectroscopies and in-situ techniques (use of gas and/or liquid, bias and heating STEM sample holders).
Previous experience on the above topics will be positively evaluated.
- **Personal Competences:**
Teamwork skills, Fluent English (both spoken and written)

Summary of conditions:

- Full time work (37,5h/week)
- Contract Length: Temporary (4 years)
- Location: Bellaterra (Barcelona)
- Salary will depend on qualifications and demonstrated experience.
- Support to the relocation issues.
- Life Insurance.

Estimated Incorporation date: January 2025

How to apply:

All applications must be made via the ICN2 website <https://jobs.icn2.cat/job-openings/657/phd-on-in-situ-stem-electrocatalysis-for-energy-and-environmental-materials> 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.