

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 in hybrid electrocatalysts for green hydrogen production

Research area or group: NanoElectrocatalysis and Sustainable Chemistry

Description of Group/Project: The NanoElectrocatalysis Group combines electrochemistry, materials engineering and in situ characterisation at the atomic scale to elucidate design principles for the discovery and development of novel electrocatalyst materials for the conversion and storage of renewable energy, as well as the production of sustainable fuels and chemicals. We offer stimulating working conditions in a vibrant, interdisciplinary and international research environment. This two-year postdoctoral researcher position is part of the project “Towards Efficient Hydrogen Production with New Hybrid Electrocatalysts (HYDROCAT).” Within this project, the candidate will characterise novel electrocatalyst nanomaterials and investigate the molecular mechanisms of electrocatalytic reactions for water splitting.

Main Tasks and responsibilities:

The successful candidate will combine classical electrochemical methods with in situ spectroelectrochemistry to investigate the structure-property relations of electrocatalyst materials. The main reactions of interest include water oxidation, or the oxygen evolution reaction, for green hydrogen production.

The candidate will develop electrochemical and in situ characterisation methods and setups for the investigation of novel electrocatalysts and electrocatalytic reactions. The research will be carried out in close collaboration with a theoretical group at the University of Barcelona and the molecular materials group at the Institute of Materials Science of Barcelona.

The candidate will carry out independent research under supervision, write scientific papers for publication in peer-reviewed journals, and disseminate their work in international conferences.

Requirements:

- **Education:**
PhD within the field of chemistry, electrochemistry or materials science.
- **Knowledge and Professional Experience:**
Work experience in electrochemistry and electrocatalysis, with relevant publications as a lead author.
It is desirable that the candidate has knowledge and experience in materials characterisation, spectroelectrochemistry, and synchrotron X-ray based techniques for the characterisation of electrocatalytic reactions.
- **Personal Competences:**
The successful candidate will have excellent communication skills, and excellent written and spoken English, and be willing and able to develop experimental electrochemical and spectroscopic methods, advance the research project and work both independently and as part of an international team at the ICN2.

Summary of conditions:

- Full time work (37,5h/week)
- Contract Length: Temporary
- 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/617/postdoctoral-researcher-in-hybrid-electrocatalysts-for-green-hydrogen-production> 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: 24 April 2024

Applications will be continuously reviewed. Shortlisted candidates will be invited for interview.

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Generalitat de Catalunya
**Departament de Recerca
i Universitats**



Generalitat de Catalunya
**Departament d'Acció Climàtica,
Alimentació i Agenda Rural**

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.