

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 18 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

Research area or group: Nanostructured Materials for Photovoltaic Energy Group

Description of Group/Project:

Halide perovskite solar cells (PSCs) have revolutionized the photovoltaic arena providing power conversion efficiencies currently above 25 %, low cost and ease of fabrication. Their combination in tandem architectures with Silicon solar cells will permit building terawatt-scale energy production required for low-carbon economy, shaping the energy future of our society. However, the limited lifetime of PSC is a drawback for the deployment and commercialization of this technology.

We offer a Postdoctoral contract to work under the SolarEraNet project “PrOperPhotoMiLe” related to the stability of Halide Perovskite Solar Cells and Machine Learning. The candidate will work with highly efficient and stable PSCs to be analysed following the ISOS protocols recently upgraded for PSCs (Nat. Energ. 2020, 5, 35-49). Indoor and Outdoor analysis of complete devices will be carried out together with data analysis and treatment. The work will be carried out at the Nanostructured Materials for Photovoltaic Energy Group at ICN2.

Main Tasks and responsibilities:

- Fabrication and characterization of high efficiency halide perovskite solar cells (PSC).
- Stability analysis of PSCs following the recently upgraded ISOS protocols.
- Process and analysis of data.
- Elaboration of periodic reports to keep track of the project progress.
- Preparation of scientific manuscripts and presentations in workshops or conferences to showcase your research results to the scientific community.
- Skills on proposal writing.
- PhD students supervision.

Requirements:

- Education:
PhD degree in physics, chemistry, materials science, nanotechnology, electronics or closely related discipline.
- Knowledge and Experience:
Experience in stability analyses of PSCs. Knowledge of ISOS protocols for PSCs. Data management and treatment. High level of experimental skills and self-discipline to fabricate reproducible devices.

Ability to work safely in the lab environment. We encourage a high degree of responsibility and independence, but also stimulate interaction and discussion with colleagues.

English (Advanced), knowledge of Spanish or Catalan would be beneficial but not necessary.

- **Competences:**
Highly motivated and enthusiastic researcher.
Strong analytical skills and a keen interest in the interpretation of complex data.
Excellent organisation skills, time management and ability to work to priorities.
Excellent written and oral communication skills.

Summary of conditions:

- Full time work (37,5h/week)
- Contract Length: We offer a one-year contract to be extended depending on candidate results.
- 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/257/postdoctoral-researcher-nanostructured-materials-for-photovoltaic-energy-group> and include the following:

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

Equal opportunities:

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