

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:** Senior Postdoctoral Researcher

**Research area or group:** Nanoscience Instrument Development Division

**Description of Group/Project:**

We are seeking a talented and ambitious product developer to join our team and participate in a project that involves interactions with industry, market and research. The position involves working with the R&D team of Cooling Photonics, a dynamic ICN2 start-up.

The candidate will be responsible for the development of multi-functional films for the application of photovoltaic and other use cases.

These coatings are characterized by spectroscopy (UVVIS and IR) and their thermal performance by outdoor field tests that monitor the temperature and net cooling power with respect to a reference. Working with the R&D team, the candidate will be responsible for the planning, preparation, execution, data analysis and reporting of field test activities for an Industrial and academic project. The objective of the project is to integrate hierarchical micro/nanostructured patterns on solar photovoltaics to combine different functionalities. Our aim is to contribute to reduce the intensive energy use and carbon footprint of conventional cooling technologies and increase the efficiency of other renewable energy technologies such as PV.

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## **Main Tasks and responsibilities:**

We look for exceptional people and give them a level of responsibility, exposure and autonomy that will accelerate their career. You will be responsible for working with other scientists and engineering team members. Ideally, the successful applicant has experience in thermal engineering, instrumentation, thermal photonics, renewable and clean energy. The main goal is to implement and perform outdoor field tests on our passive cooling materials, and contribute to the design and analysis of tests adapted to pilot projects with the industry.

### **Responsibilities**

- Characterization and field testing of multi-functional coatings in relevant environment reporting their performance.
- Participate in the thermal performance characterization and outdoor field tests for pilot projects. These tests include improved electric performance of solar cells and the evaluation of the cooling performance obtained by continuous temperature cycle and net cooling power measurements.
- Participate in the conception, the design and the set-up of experiments.
- Oversee the project's lifecycle, from initiation to closure, ensuring adherence to project management best practices and methodologies.
- Collaborate with cross-functional teams to define project scope, objectives, and deliverables, and establish project plans, schedules, and budgets.
- Provide leadership and support to project teams, ensuring effective communication, coordination, and collaboration to achieve project goals.
- Monitor project progress, identify risks and issues, and implement proactive measures to mitigate them, ensuring projects stay on track and within budget.
- Develop and maintain project documentation, including project plans, schedules, and status reports, and ensure timely and accurate reporting to stakeholders.
- Manage stakeholder expectations and foster strong relationships with internal and external stakeholders, including clients, partners, and funding agencies.
- Support the preparation of applications for public funding, including researching funding opportunities, preparing project proposals, and coordinating with relevant departments.
- Stay up to date with industry trends, project management methodologies, and funding opportunities, and share best practices with the team to enhance project management capabilities.

### **Requirements:**

We are looking for a highly motivated postdoctoral researcher, interested in nanotechnology, nanofabrication, and instrumentation. Knowledge of nanoimprint lithography, photonics, thermal photonics, renewable and clean energy are a plus.

- **Education:** You have a BSc, Master degree or PhD in physics, nanotechnology, chemistry or equivalent.
- **Knowledge:** You have a background and interest in nanotechnology. A good understanding of the related material properties and processing concepts is essential while experience in photonics and nanoimprint lithography are a plus.
- You have a background and an interest in instrumentation for characterization and field testing.
- **Personal Competences:** You thrive in a collaborative environment involving different stakeholders and subject matter experts.

- You have a proven track record for working well across teams and with external partners.
- You are a strong communicator and can explain complex issues in clear, persuasive language.
- Highly motivated, have a transversal background and enjoy learning new skills.
- Creative, collaborative and and like to work in a high performant team to solve problems.
- Ability to meet deadlines with quality output deliverables.
- Flexible to accept new challenges in the future, and to evolve together with the changing R&D demands of our high-tech environment.
- Proactive and autonomous character
- Excellent team player with very good communication and reporting skills.

*Who you are:*

We are looking for a highly motivated product developer, interested in developing its career in a fast and dynamic environment. Knowledge of photonics, nanotech, renewable and clean energy, chemistry is a plus. PhD degree in chemistry, physics, nanotechnology, or equivalent is not required but is a plus.

*Minimum requirements:*

- Proven experience (ideally 4+ years) in chemistry and physics.
- Particularly good understanding of thermal mechanisms and thermodynamics.
- Basic knowledge about electronics, measurement, and control systems.
- Good understanding of material properties and cooling technologies are a plus.
- You thrive in a collaborative environment involving different stakeholders and subject matter experts.
- Proven record of accomplishment for working well across teams and with external partners.
- You are a strong communicator and can explain complex issues in clear, persuasive language.

*Competences:*

- Excellent technical and communication skills, with the ability to effectively collaborate with cross-functional teams and stakeholders at all levels.
- Strong analytical and problem-solving abilities, with a focus on driving results and delivering projects on time and within budget.
- Excellent organizational skills and attention to detail, with the ability to prioritize and manage multiple task simultaneously.
- You already have experience building electronics set ups (with Arduino and Raspberry).
- You have experience planning experiments, working with sensors, calibrations, and processing data.
- Highly motivated, have a transversal background and enjoy learning new skills.
- Self-motivated and willing to tackle the challenges of characterizing the thermal performance of our multi-functional films in relevant environments.

**Summary of conditions:**

- Full time work (37,5h/week)
- Contract Length: 1 year

- Location: Bellaterra (Barcelona)
- Salary will depend on qualifications and demonstrated experience.
- Support to the relocation issues.
- Life Insurance.

Estimated Incorporation date: July 2024

**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: 15/07/2024

**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.