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 values are Commitment, Collaboration and Transformation.

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 the Severo Ochoa Center of Excellence distinction for three consecutive periods (2014-2018, 2018-2022 and 2023-2026). ICN2 comprises 20 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

Department: Thermal Properties of Nanoscale Materials

Description of Group/Project:
The Thermal Properties of Nanoscale Materials (GTNaM) group at ICN2/UAB investigates nanoscale thermal phenomena, molecular glasses, and functional materials. This position is funded by GLASSPIKE, an ERC Advanced Grant developing vapor-deposited molecular glasses with programmable polarization for analog memory and spike-based computing. The researcher will work in a multidisciplinary environment combining thin-film growth, AFM/KPFM, electrical characterization, nanostructuration, and nanocalorimetry.

Main Tasks and responsibilities:
- Grow and optimize vapor-deposited molecular-glass thin films.
- Characterize spontaneous molecular orientation, polarization, and surface potential.
- Develop quantitative KPFM and FM-KPFM methods for highly polar molecular films.
- Investigate voltage-driven molecular polarization and depolarization.
- Generate and characterize programmable analog polarization states.
- Correlate KPFM with thermally stimulated depolarization and pseudopyroelectric measurements.
- Study interfacial imprinting, relaxation, and stability of programmed states.
- Investigate devitrification and local transformations; analyze results and prepare publications.

Requirements:
- **Education:** PhD in Physics, Materials Science, Nanoscience, Physical Chemistry, Electrical Engineering, or a closely related field.
- **Knowledge:** Surface/contact potential, dielectric and polarization measurements, thin-film physics and data analysis.
    - Essential research profile: Applications will be considered only from candidates whose peer-reviewed publications demonstrate direct research experience in all three core areas:
        - Kelvin Probe Force Microscopy (KPFM), preferably quantitative KPFM or FM-KPFM;
        - Ferroelectric, pyroelectric, electret, or related polarization phenomena;
        - Molecular organic materials or organic thin films.
    - Applications that do not document this experience will not be considered.
- **Professional Experience:**
    - Hands-on AFM/KPFM and electrical characterization of polar materials.

- Experience in thin-film growth, current measurements, or experimental instrumentation is desirable.
- **Personal Competences:** Scientific independence, rigorous experimental practice, teamwork, and strong written and oral communication in English.

Summary of conditions:

- Full-time work (37,5h/week)
- Contract Length: Temporary; 36 months (M1-M36), linked to the GLASSPIKE project
- Location: Bellaterra (Barcelona)
- Salary will depend on qualifications and demonstrated experience.
- Support for relocation issues.
- Life Insurance.

Estimated Incorporation date: 01/02/2027

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. Reference letters or referee contacts

Deadline for applications: Applications will be reviewed continuously.

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Funded by the European Union

European Research Council
Established by the European Commission

Equal opportunities:
At ICN2, we foster an inclusive and safe work environment, free from any form of discrimination—whether based on gender, sexual orientation, gender identity, age, origin, culture, religion, disability, or any other personal or social condition. We are committed to ensuring equal treatment and opportunities in all our processes, especially in recruitment, which is based solely on talent, experience, and ability. We implement proactive policies for inclusion and harassment prevention that reinforce our commitment to respect and fairness. If you share these values and are looking to grow in an open and diverse environment, ICN2 is ready to welcome you.