

RESEARCH SUPPORT TECHNICIAN - NANOSTRUCTURED FUNCTIONAL MATERIALS GROUP

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 Centre of Excellence distinction for two consecutive periods (2014-2018 and 2018-2022). 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: RESEARCH SUPPORT TECHNICIAN

Research area or group: Nanostructured Functional Materials group

Description of Group

Nanostructured Functional Materials (**Nanosfun**) Group (www.nanosfun.com) is a group of ICN2 and focuses its research on molecular materials at the nanoscale. The nanostructuring confers properties not possible otherwise. The group works in two main research lines: nanomaterials for biomedical applications (e.g. Parkinson treatment) and chromogenic and emissive materials for energy efficient devices. The group is also strongly active in technology transfer and R&D projects with private companies.

Description of research project

Project: Colaboración Público-Privada (CPP)

The project belongs to the project call Colaboración Público-Privada (CPP), CPP2021-008883, funded by MINISTERIO DE CIENCIA E INNOVACIÓN, EU Next Generation Plan de recuperación, transformación y resiliencia, AEI. This project is in collaboration with the spinoff company Futurechromes S.L. and Idonial research institute. It is focused on the development of highly transparent and long-lasting UV-responsive photochromic nanomaterials for building smart windows. These materials should allow to improve comfort and energy efficiency in buildings.

This contract is part of the project CPP2021-008883, funded by MCIN/AEI/10.13039/501100011033 and by the European Union-NextGenerationEU/PRTR.



Main Tasks and responsibilities:

The candidate research activity will be related to the SOLAR project, with full dedication. It is an applied research project, in collaboration with companies (Futurechromes and its partners). New patents are expected to come out from the project.

The project involves these main areas:

- Understanding the causes of photochromic dyes degradation,
- Improvement photochromic dyes photostability,
- Scale-up of the nanoparticles and films through industrial processes,
- Characterization of chemical, morphological and optical properties of the materials synthesized.
- Direct collaboration with private companies.
- Preparation of samples for the delivery to partners.
- Preparation of prototypes.
- Tests of energy saving in building models.

The hired person will be mainly focused on lab work to develop the project. It will be also asked the preparation of reports and presentations to show the latest results.

Requirements:

- **Education:**
 - Master's degree in chemistry (preferred), Chemical Engineering (also welcome), Nanoscience and Nanotechnology, Materials Science, and similar.
- **Professional Experience:**
 - Experience in lab work and research, especially in the synthesis and characterization of polymeric nanoparticles through wet methods (oil-in-water emulsions).
 - Expertise in films and coatings.
 - Experience in morphological and optical characterization of the nanomaterials.
 - Will to run an applied research project.
- **Competences required:**
 - Modelling for calculation of light transmittance and energy modulation through surfaces
 - Good spoken English would be appreciated as well.
 - Good attitude in working in a team,
 - Motivation and ability to overcome scientific challenges.
 - Entrepreneur experience

Summary of conditions:

- Full time work (37,5h/week)
- Contract Length: 2 years and 9 months
- Location: Bellaterra (Barcelona)
- Salary will depend on qualifications and demonstrated experience.
- Support to the relocation issues.
- Life Insurance.

Estimated Incorporation date: December 2022

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: 25 November 2022

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.