

RESEARCH ENGINEER IN BIOMATERIALS CHARACTERIZATION AND MEDICAL DEVICE EVALUATION FOR THE FRAUNHOFER CENTER FOR APPLIED THERAGNOSTICS (RE01-FCAT)

1. Introduction to the position:

The Fraunhofer Spain Research foundation is looking for a highly motivated RESEARCH ENGINEER to join our team at the Fraunhofer Center for Applied Theragnostics in Catalonia (Fraunhofer CAT). The selected candidate will contribute to the development, characterization and preclinical evaluation of biomaterials, medical devices and advanced material-based platforms for biomedical and translational research applications.

The contract will be within the framework of the Fraunhofer CAT project, whose objective is the development of new diagnostic, prognostic and therapeutic tools in the field of precision medicine. For example, the development of new technologies for i) the establishment of biomimetic organ and tissue models for in vitro testing, ii) the development of sensors and electronic devices, iii) the design and validation of therapeutic strategies for personalized medicine, and iv) the production and validation of new biological models.

This project is funded by: Ministerio de Ciencia, Innovación y Universidades, Generalitat de Catalunya and Ajuntament de Barcelona.

2. Main duties and responsibilities:

Under the supervision of the Fraunhofer CAT direction, the applicant will carry out the following activities:

- Contribute to research projects involving biomaterials, polymeric medical devices, hydrogels, and material-based biomedical platforms.
- Design, perform and optimize experimental protocols for the physicochemical characterization of biomaterials, including polymeric materials, degradable implants, hydrogels, tissue-mimicking phantoms and medical device components.
- Carry out studies of swelling, degradation, water content, diffusion, release kinetics, surface properties and mechanical behaviour of biomaterials and soft materials as well as complementary studies for the identification of residues, contaminants, degradation products or material defects.
- Support the evaluation of material-biological interactions, including cytocompatibility, cellular response to biomaterials, inflammatory response, antimicrobial-related activity or regenerative performance, in collaboration with cell biology and tissue engineering specialists.
- Coordinate external or internal analytical services when required, including FTIR-ATR, SEM-EDS, ICP-MS/ICP-OES, histology, microbiology, rheology or advanced microscopy platforms.
- Participate in the design and execution of studies related to medical device evaluation, including sample preparation, selection of characterization methods, experimental planning, data interpretation and technical reporting.
- Analyze experimental data and communicate results through technical reports, publications, presentations and other outputs.
- Actively contribute to lab research and collaborations.

Financiado por:



3. Requirements for candidates

Essential

- PhD in Materials Science, Biomaterials, Biomedical Engineering, Bioengineering, Chemistry, Chemical Engineering, Polymer Science or related disciplines.
- Proven knowledge on biomaterials and polymeric materials, physicochemical characterization of materials and medical device materials.
- Hands-on experience in material characterization techniques, including FTIR-ATR, SEM, optical microscopy, fluorescence microscopy, swelling assays, degradation studies, mechanical testing or surface characterization.
- Experience in designing experimental workflows for the evaluation of material properties, degradation, diffusion, release profiles and interaction with biological environments.
- Capacity to analyse, interpret and integrate physicochemical, microscopic and biological data into clear technical conclusions.
- Excellent skills for project conceptualization and technical reporting.
- Ability to work independently while contributing effectively to collaborative projects.
- Strong organizational skills, attention to detail and ability to prioritize tasks.
- Excellent communications skills in English.

Advantageous:

- Experience ICP-MS, ICP-OES, DSC, TGA, rheology, profilometry, contact angle, zeta potential, mechanical testing and CP-MS, ICP-OES.
- Knowledge of ISO 10993, MDR-related preclinical evaluation, biocompatibility strategies or regulatory-oriented material characterization.
- Experience in working with industrial partners, preparing technical proposals, budgets and client-oriented scientific reports.

We Offer:

- Number of available positions: 1
- Starting date: as soon as possible
- Working conditions:
 - Full time permanent contract. Open-ended contract due to technical and scientific activities linked to the project and budget duration. Presential.
 - Salary: €32.000 - €36.000
 - Measures to reconcile work and family life (maternity and paternity leave, flexible schedule working hours, 23 working days of paid holidays, 6 leave days for personal matters, among others).
- Fraunhofer Spain Research ensures equality of access to professional development opportunities irrespective of employment status or other factors.
- Stimulating, interdisciplinary research and high-quality international scientific environment.
- Induction programme to facilitate incorporation at Fraunhofer Spain Research and additional support is provided for foreigners to obtain Visa-working permit and to install in Barcelona.

Financiado por:



How to apply:

Until the 16th of August, by sending a CV and motivation letter to info@fraunhofer.es with the reference "RE01-FCAT" as subject of the email.

Only those applications submitted before the deadline will be evaluated.

Reference: RE01-FCAT

If you have any further questions regarding your application or the application process, please get in touch with us at info@fraunhofer.es

Principles of the selection process:

Fraunhofer Research Spain Foundation is committed to the principles of the Code of Conduct for the Recruitment of Researchers of the European Commission and the Open, Transparent and Merit based Recruitment principles (OTM-R).

Fraunhofer Research Spain Foundation's commitment on equal opportunity: our strength and excellence as an international transdisciplinary research institute are based on diversity. Being an equal opportunity employer, we are committed to diversity and inclusion, so that we support employees irrespective of their gender, nationality, religion, disabilities, age, sexual identity or cultural and socioeconomic background.

Fraunhofer Research Spain Foundation aims for a representative gender balance at all levels of staff, so we strongly encourage women to apply. At least 40% of shortlisted applicants invited to interview have to be women with comparable level of CVs as the male candidates.

Protection of personal data:

Fraunhofer Spain Research Foundation guarantees that candidates' personal data are processed in accordance with the requirements of the EU General Data Protection Regulation (GDPR) and Law 3/2018 on Data Protection.

Personal data will be processed solely for the purposes of the selection process.

Who we are?

The Fundación Fraunhofer Spain Research (Fraunhofer Spain) is a non-profit private Spanish Foundation, established in Barcelona in 2025 as an affiliate of Fraunhofer-Gesellschaft, Europe's leading organization for applied research (<https://www.fraunhofer.es/>).

Our mission is to conduct independent research activities, including training, knowledge dissemination, and technology transfer. These activities range from basic research to prototype development and small-scale production, strengthening the internationalization of applied research and connecting academia with productive sectors.

Fraunhofer Spain Research has launched its first program in applied bioengineering for health: the Fraunhofer Center for Applied Theragnostics (Fraunhofer CAT). This initiative is dedicated to developing innovative diagnostic, prognostic, and therapeutic tools within the field of precision medicine. The program aims to generate significant academic, industrial, and healthcare impact, ultimately contributing to societal well-being.

Financiado por:



Fraunhofer Spain was founded by Fraunhofer-Gesellschaft, the largest organisation for applied research in Europe with the economic support of the Spanish Government (Ministerio de Ciencia, Innovación y Universidades), the Barcelona City Council (Ajuntament de Barcelona), and the Catalan Government (Generalitat de Catalunya), as well as the academic collaboration of Barcelona University, the Institute for Bioengineering of Catalonia (IBEC) and Fraunhofer Institute for Biomedical Engineering (Fraunhofer IBMT).

Financiado por:

