

LEADING SCIENTIST IN APPLIED AI FOR THERAGNOSTICS AND PRECISION MEDICINE FOR THE FRAUNHOFER CENTER FOR APPLIED THERAGNOSTICS (LS01-FCAT)

1. Introduction to the position:

The Fraunhofer Spain Research foundation is looking for a highly motivated LEADING SCIENTIST in applied AI for theragnostics and precision medicine to join our team at the Fraunhofer Center for Applied Theragnostics in Catalonia (Fraunhofer CAT). The candidate will provide scientific and strategic leadership in the development of artificial intelligence technologies to accelerate the translation of advanced diagnostics and personalized therapies into clinical practice. The role will bridge multimodal imaging, digital biomarkers, computational modelling, advanced in silico systems, and clinical data integration, transforming complex biomedical data into actionable insights for precision medicine and next-generation theragnostic solutions.

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:

- Define and lead the strategic research agenda in AI-driven theragnostics and precision medicine.
- Build and coordinate multidisciplinary research activities spanning AI, medical imaging, computational biology, predictive biomodels, and translational medicine.
- Establish and maintain collaborations with hospitals, research institutes, healthcare providers, and industry partners as well as other strategic partnerships and potential spin-off activities.
- Develop AI-based methods for patient stratification, disease diagnosis, prognosis, and treatment response prediction.
- Lead the development of digital biomarkers through the integration of imaging, molecular, clinical, and biological data.
- Advance multimodal imaging analytics, including PET, SPECT, CT, MRI, and hybrid imaging systems.
- Promote the use of machine learning, deep learning, foundation models, and generative AI in healthcare applications.
- Contribute to the development of digital twins and computational models to support personalized therapeutic decisions.
- Lead the preparation and execution of competitive research proposals and industrial innovation projects, ensuring successful delivery of scientific, technical, and innovation objectives.
- Supervise scientists, engineers, postdoctoral researchers, and other research-involved actors.
- Translate research outcomes into clinically and industrially relevant solutions.

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- Support the generation of intellectual property, software assets, and technology transfer opportunities.

3. Requirements for candidates

Essential

- PhD in Artificial Intelligence, Biomedical Engineering, Medical Physics, Computer Science, Computational Biology, Data Science, or a related discipline.
- Extensive experience in biomedical AI research, preferably within translational or clinical environments.
- Proficient in artificial intelligence, machine learning and deep learning, as well as in multimodal data integration and predictive modelling.
- Knowledge of medical imaging analytics, including PET, SPECT, CT and MRI and radiomics, imaging biomarkers and computational medicine.
- Proficient in programming environments such as Python, PyTorch and TensorFlow.
- Experienced in high-performance computing and cloud-based data infrastructures.
- Proven track record in securing competitive funding and leading collaborative projects.
- Demonstrated leadership in multidisciplinary research programmes.
- Excellent communications skills in English.

Advantageous:

- Knowledge of healthcare regulations and frameworks related to AI and medical technologies

We Offer:

- Number of available positions: 1
- Starting date: as soon as possible
- Working conditions:
 - Full time permanent contract. Presential. Attractive salary.
 - 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.

How to apply:

Until the 31st of August, by sending a CV and motivation letter to info@fraunhofer.es with the reference “LS01-FCAT” as subject of the email.

Only those applications submitted before the deadline will be evaluated.

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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.

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).

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