

Position Offered: PREDOCTORAL RESEARCHER

Project: *Digital Techniques in Medical Devices*

Technological and scientific fields: Artificial intelligence, Medical Imaging, Medical Devices

Location: Valencia, Comunidad Valenciana, Instituto de Instrumentación para Imagen Molecular (I3M), www.i3m.upv.es

Research Group/PI: X-ray Imaging Laboratory (XLab). Prof. Jose Maria Benlloch Baviera (<https://i3m.csic.upv.es/research/stim/xraylab/>)

PROJECT SUMMARY

Ionising radiation is widely used in modern medicine. These techniques deliver radiation doses to the patient, providing valuable diagnostic information, and are also a specific type of therapy in themselves. One of the main research challenges is to reduce doses while maintaining therapy results and image quality. This is the context of this project, which takes a multidisciplinary approach to dose reduction. In the PET imaging modality, AI techniques will be applied that have a direct impact on image quality, and thus on potential dose reduction, such as: (i) Addressing the main corrections (normalisation, attenuation, sparse matching and random matching) (ii) Improving Mass Data Processing, Management and Storage; (iii) Improving the determination of Gamma Ray positions and Interaction time in the Detector; (iv) Optimising Image Reconstruction Algorithms; (v) Improving Process Automation in the PET-CT co-registration process.

PROFESSIONAL PROFILE

Minimum requirements:

- BSc in Biomedical Engineering
- Proficiency in English and Spanish (B2 required)

Merits to be considered:

- MSc in Medical Imaging
- Experience in Medical Imaging projects, especially in PET
- Knowledge of Artificial Intelligence techniques, especially in convolutional neural networks.
- Python programming

WHAT IS OFFERED

Participation in high-impact research projects in the field of medical imaging, with direct transfer to society, together with a group of professionals with extensive experience in the field. During the contract, specific training activities will be carried out, such as a master's degree in AI or cloud computing, as well as training stays in companies, both in Spain and in Germany.

Contract conditions:

Predoctoral Researcher contract of 4 years' duration. Gross annual salary of 23,871.33 €.

Start of contract: before 31 December 2024

PRINCIPAL INVESTIGATOR CONTACT

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