



A highly innovative system, called long axial field of view (LAFOV) PET/CT, has become available and is the ideal medical imaging modality to study diseases and molecular processes at the whole body/systems biology level with multiple radiotracers. Studying diseases and diagnosing patients using PET/CT imaging should use a whole body/systems biology approach, i.e., a comprehensive whole body characterisation of disease, and it should be longitudinal and should use multiple radiotracers. However, LAFOV PET/CT is so new that we lack the necessary tools, methodologies, imaging procedures and skilled scientists to effectively address key applications in patient care and research. With the **PREFERENCE** project we aim to develop innovative LAFOV PET/CT methodologies to perform and support ground-breaking new clinical research.

PREFERENCE will train the next generation of researchers specialized in LAFOV PET/CT who will capitalize on the new clinical and research opportunities of the LAFOV PET/CT system. By performing research in both academia and industrial groups, researchers within **PREFERENCE** receive training in a unique combination of (soft) skills across disciplines and sectors. **PREFERENCE** will develop new LAFOV PET/CT methodologies, and perform LAFOV PET/CT clinical studies across disease areas to obtain novel biological insights. This project was selected by the EU as worthy of funding under the H2025 Marie Skłodowska Curie awards. The consortium consists of 12 academic partners with a strong expertise in quantitative (LAFOV) PET/CT imaging as well as industrial partners developing imaging equipment or providing multi-center image analysis solutions and services.

PhD PROJECT: PET derived synthetic CT for high sensitivity scanners



HOST INSTITUTION. RegionH (Rigshospitalet, Copenhagen)

With seven hospitals and approximately 44,000 employees, RegionH (the Capital Region of Denmark) operates the country's largest healthcare system. Patients and their families are at the heart of everything we do, and we strive to ensure that everyone feels informed and involved.

Rigshospitalet, the largest healthcare institution in RegionH and a highly specialized university hospital, provides a strong foundation for innovation, implementation, and the scaling of healthcare initiatives. The hospital employs approximately 11,100 staff members, and its research environment includes 142 professors and approximately 500 PhD and master's students.

The Department of Clinical Physiology and Nuclear Medicine is part of the Centre for Diagnostic Investigations, which comprises several highly specialized departments, including Diagnostic Radiology, Clinical Biochemistry, Pathology, Clinical Immunology, Clinical Physiology and Nuclear Medicine, Clinical Microbiology, Clinical Genetics, and the Center for Genomic Medicine.

The department has a large radiochemistry section with GMP-compliant laboratories, two cyclotrons, and extensive experience in the development of novel radiotracers. It operates 10 PET scanners, including two PET/MR systems, state-of-the-art PET/CT scanners, and two long-axial field-of-view (LAFOV) PET/CT scanners. The physics group consists of 10 physicists, engineers, and data scientists with expertise spanning all aspects of PET physics, including image reconstruction, quantitative imaging, dosimetry, data analysis, and protocol optimization. In collaboration with the Department of Radiology, the department has established DEPICT, a dedicated unit for artificial intelligence and image analysis. The unit has more than 10 years of experience in developing, validating, and implementing AI solutions for clinical imaging, with a strong focus on translating advanced AI methods into routine clinical practice.

DESCRIPTION OF THE ADVERTISED POSITION (DC4)

This is a 3-y full time position as a doctoral candidate (DC) with enrollment at the PhD program at Copenhagen University, Faculty of Health. The successful candidate will develop and validate a PET emission derived AI-based solution to attenuation correction ensuring attenuation estimates are time-matched to the PET data and artefact free and allowing for ultra-low radiation dose PET examinations. This includes various tracers, low count scenarios and validation in clinical studies. One-month secondments are planned with University of BERN to work on integration into AI based reconstruction and with University of Amsterdam to work on repeatability studies with different tracers. A secondment at Siemens Healthineers, Knoxville is planned for integration into Siemens offline reconstruction pipeline.



GENERAL ELIGIBILITY CRITERIA

Mobility Rule: The fellow may not have resided in the country where the research training activities take place for more than 12 months in the 3 years immediately prior to the recruitment date (and not have carried out their main activity (work, studies, etc.) in that country)

Early Stage Researcher: The fellow must be — at the date of recruitment — an ‘**early stage researcher**’ (i.e. in the first four years (full-time equivalent) of his/her research career and not have a doctoral degree)

SPECIAL REQUIREMENTS

- A master's degree in computer science, physics, biomedical engineering or equivalent
- Excellent written and verbal communication skills in English
- Good programming skills; Python experience is a plus
- Experience with AI development with focus on deep learning and images
- Strong collaboration skills
- Knowledge of medical image data will be an advantage
- Willingness to travel and flexibility

FURTHER INFORMATION:

PREFERENCE: <https://preference-consortium.eu/>

Rigshospitalet: <https://www.rigshospitalet.dk/english/>

DEPICT: <https://depict.dk/>

Project contact: Flemming Littrup Andersen, Clinical Professor, Department of Clinical physiology and Nuclear Medicine.

Full applications should include

- A motivation letter
- A Europass CV (<https://europass.cedefop.europa.eu/documents/curriculum-vitae>)
- Copies of your relevant certificates
- Contact details of two references

Applications should be submitted online at <https://www.rigshospitalet.dk/job-og-uddannelse/s%C3%B8g-job/Sider/Region-Hovedstaden-soeger.aspx?positionid=270753> by November 1. 2026. In case of any procedural questions, please contact: flemming.andersen@regionh.dk