

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 HE Marie Skłodowska Curie Action. 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. Development and validation of network analysis methods



HOST INSTITUTION. University of Edinburgh

The University of Edinburgh is one of the largest and most successful universities in the UK with an international reputation as a centre of academic excellence. The 2024 QS rankings listed the University of Edinburgh as 22nd in the world and 6th in Europe. During the 2023/2024 session, over 49,000 students were matriculated at the University of Edinburgh. More than 17,000 staff members make the University a vibrant, academic and diverse environment. The University of Edinburgh is the home of Britain's oldest literary awards, the James Tait Black Prizes and Dolly the sheep, the first animal to be cloned from an adult somatic cell. Research and innovation are the forefront of the University business, with PET imaging playing a central role in terms of technology development and clinical patient management. Edinburgh houses one of the two total-body PET scanners part of the MRC-awarded national total-body platform (NPIP, <https://npip.org.uk/>), illustrating its commitment to PET technology.

Edinburgh has a long and distinguished history of imaging excellence. Edinburgh Imaging is a partnership between the University of Edinburgh and the National Health Service (NHS) Lothian (<https://clinical-sciences.ed.ac.uk/edinburgh-imaging>). It operates facilities housing cutting-edge advanced imaging equipment and associated laboratories. The aggregated knowledge and experience, developed over more than 25 years, of the Edinburgh Imaging staff underpin a suite of online learning tools, supporting postgraduate academic qualifications, Continuing Professional Development (CPD) & Postgraduate Professional Development (PPD) activities. Edinburgh Imaging supports an academic research community based across all University of Edinburgh Colleges, a host of other Scottish and UK research Institutions, as well as academic organisations internationally.

The University of Edinburgh radiochemistry and cyclotron facility houses a cyclotron and 11 hot cells with automated synthesis modules (3 for R&D and 8 for GMP production of radiotracers). Adjacent to this facility is the small animal imaging facilities that house three preclinical PET scanners (1 simultaneous 7T PET/MRI system, 1 large-axial field of view PET/CT system and 1 PET/CT system), one 9.4T MRI scanner, one ultrasound system, and two optical imaging systems. The preclinical PET facility also includes a radiometabolite and autoradiography labs, as well as surgical suite for automatic blood sampling. This infrastructure is complemented by clinical total-body PET capability in addition to wider clinical imaging infrastructure that includes two other clinical PET systems. The University of Edinburgh is the current home of the PET is Wonderful initiative (<https://petiswonderful.org/>).

DESCRIPTION OF THE ADVERTISED POSITION (DC 7)

This is a 3 year full time position as doctoral candidate under the auspice of the MSCA DN programme. The successful candidate will develop new network analysis methodologies for LAFOV PET/CT datasets and will validate network analysis findings versus kinetic modelling and *ex vivo* tissue analysis. Within the course of this project, 1 month secondments are planned as follow: (1) Antaros to work on setting up multicentre analysis pipelines and software tools, (2) Medical University of Vienna to explore whole-body connectomes in metabolic disease and (3) Amsterdam Medical University Centre to evaluate network analysis for dynamic LAFOV brain studies are planned. Furthermore, the project may include short-term visits to different PREFERENCE partners for data and software exchange.

The successful candidate will also benefit from mentorship from experts in the field, who are part of the consortium training committee, they will be able to receive training on various research themes, including project management and ethics. Throughout the project, the successful candidate will have an opportunity to disseminate their research findings across multiple audiences.

In Edinburgh the successful candidate will be based at the College of Medicine and Veterinary Medicine (Prof Tavares) and work together with the College of Sciences and Engineering (Dr D'Arnese), therefore, benefiting from a multi-disciplinary complementary scientific environment.

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). Researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of the recruiting beneficiary for more than 12 months in the 36 months immediately before their date of recruitment. Compulsory national service, short stays such as holidays, and time spent as part of a procedure for obtaining refugee status under the Geneva Convention¹ are not taken into account. For international European research organisations², international organisations, or entities created under Union law, recruited researchers must not have spent more than 12 months in the 36 months immediately before their date of recruitment in the same appointing organisation. Note that the mobility rule applies to the (first) beneficiary where the researcher is recruited. In case of multiple recruitments, the mobility rule only applies to the first recruitment.

Doctoral candidate: The fellow must be — at the date of recruitment — an ‘**doctoral candidate**’ (i.e. not have a doctoral degree). All researchers recruited in a DN must be doctoral candidates (i.e. not already in possession of a doctoral degree at the date of the recruitment) and undertake transnational mobility (see the mobility rule definition in section 1). Researchers who have successfully defended their doctoral thesis but who have not yet formally been awarded the doctoral degree will not be considered eligible. For all recruitments, the eligibility of the researcher will be determined at the date of their first recruitment in the action. This status will not evolve over the lifetime of the action, even if they are re-recruited at another beneficiary.

Candidates from Russia, Belarus and occupied territories in Ukraine are also not eligible.

SPECIAL REQUIREMENTS

- Successfully completed studies in Physics, Biomedical Engineering, Computer Science or alike (MSc degree)
- Very good command of the English language
- Good communication skills (a pre-requisite for cooperating in a multi-disciplinary environment)
- Willingness to travel and flexibility



- Technical skills will be of benefit
- Prior experience with medical imaging data will be of benefit
- Appropriate physical condition to work in a radiation protection control area

RECRUITMENT PROCESS:

After assessing compliance with the mobility rule and eligibility for the position based on your CV and motivation letter you might be invited for several online or in-person interviews. Selection of the candidates and invitation for the interviews will be done by the local (host) supervisory team. These interviews will be performed by the local (host) supervisory team as well as an international scientific mentor from the network and, possibly, one of the scientific advisors. Information on your application will be shared with the coordinator of the consortium for centralized coordination and registration of the recruitment process. Information on the exact employment conditions will be provided by the host institution and can also be found on their job announcement board, information on salary (gross and net salary, social security benefits etc) will be communicated during the interview and upon appointment by the host institution.

You will be appointed as fulltime PhD candidate for 3-4 years depending on the hosting institution. Successful candidates will receive a salary in accordance with the Marie Skłodowska-Curie Actions, that includes a gross living allowance of €4.010/month (correction factor to be applied per country), a monthly mobility allowance of €710 and depending on your familiar status, a family monthly allowance of €660. Please note that these amounts include taxes and compulsory employer contributions that will be deducted to make the net salary. The exact net salary will be confirmed upon appointment.

FURTHER INFORMATION:

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

UoE: <https://www.ed.ac.uk/>

PiW: <https://petiswonderful.org/>

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: PiWTeam@ed.ac.uk by **1st November 2026**. In case of any procedural questions, please contact: preference@amsterdamumc.nl