

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. Prompt Gamma Multiplexing

HOST INSTITUTION. King's College London (KCL)

King's College London is a world-renowned university that delivers exceptional education and world-leading research. King's was founded in 1829 and is made up of five campuses across London. We have more than 42,000 students and over 185,000 alumni from all over the world and have 14 Nobel Laureates. Our annual research income is £257m and we are 6th in the world for research 'power' (2021 Research Excellence Framework). We are ranked 31st in the world (QS World University Rankings 2026) and 36th in the world (Times Higher Education World Rankings 2025). We are also ranked 33rd in the world in the Times Higher Education Impact Rankings that measure universities against the United Nations' Sustainable Development Goals (SDGs). Within the Faculty of Life Sciences & Medicine, The School of Biomedical and Image Sciences (BMEIS) at KCL has a world-class range of research facilities including large radiochemistry section with GMP compliant laboratories, 2 onsite cyclotrons, PET Imaging Centre with 2 total-body PET (TBP) scanners (Siemens Quadra) and a PET/MRI scanner. The PET Centre has extensive experience in the development of new radiotracers. The imaging team have ample expertise and infrastructure to perform and analysis quantitative PET studies. The multi-disciplinary team of the department consists of radiochemists, radio-pharmacists, biologists, physicists, computer scientists and nuclear medicine physicians. There are several clinical academics and close links to Siemens molecular imaging by hosting 2 onsite collaboration scientists.

DESCRIPTION OF THE ADVERTISED POSITION (DC 8)

This is a 3-year full-time position as a doctoral candidate (DC) under the auspices of the Marie Skłodowska-Curie Actions Doctoral Networks (MSCA-DN) programme. The successful candidate will develop novel AI-based methodologies to separate individual PET tracer distributions following the simultaneous administration of multiple PET tracers, using prompt gamma emissions as an additional source of information. This approach could enable the simultaneous imaging of different aspects of disease biology within a single scan. The project will involve Monte Carlo simulations and hands-on experimental studies with a range of phantoms using the TBP scanners at King's College London (KCL) to fully characterise their performance with novel PET radionuclides. During the course of the project, the candidate will undertake 1-month secondments at the University of Bern (UBERN) to work on AI-based image reconstruction, at Eberhard Karls Universität Tübingen (EKUT) to apply the developed methods to new datasets, and with our industrial partner Siemens Healthineers AG (SMS) to

implement and evaluate methods that exploit prompt gamma information. In addition, the project may include short-term visits to other PREFERENCE partners for data and software exchange.

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)

Doctoral candidate: The fellow must be — at the date of recruitment — an ‘doctoral candidate’ (i.e. not have a doctoral degree).

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 similar (MSc degree or equivalent)
- 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 or AI-based methods 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/>

KCL: [MSCA Fellowship Research Assistant in Prompt Gamma Multiplexing | King's College London](#)



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<https://www.kcl.ac.uk/>

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 [MSCA Fellowship Research Assistant in Prompt Gamma Multiplexing | King's College London](#) by 23rd September. In case of any procedural questions, please contact: preference@amsterdamumc.nl

