



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-centre image analysis solutions and services.

PhD PROJECT. LAFOV PET/CT for infection & inflammation



HOST INSTITUTION. University Medical Center Groningen (UMCG)

The University Medical Center Groningen (UMCG) is one of the largest, historical, and innovative academic hospitals in the Netherlands and the largest employer in the Northern Netherlands. In addition to providing clinical care, it is a constituent member of the University of Groningen with much focus on core research, training, and education.

The Department of Nuclear Medicine & Molecular Imaging as part of UMCG has international reputation for its state-of-the-art infrastructure and front-end research activities together with its internal and external collaborations. The department has a large radiochemistry section with GMP compliant laboratories and with extensive experience in the development of new radiotracers. It also has 2 SPECT-CT systems, 2 PET/CT systems and a LAFOV PET/CT system. The research physics team is internationally known for its scientific work on PET quantification and image reconstruction. They have ample expertise and infrastructure to perform and analysis quantitative PET studies. The multi-disciplinary team of the department consists of radiochemists, radiopharmacists, biologists, physicists, computer scientists and nuclear medicine physicians. For clinical research, the department closely collaborates with many departments of UMCG, such as the Departments of Rheumatology, Medical Oncology, Radiation Oncology, Hematology and Neurology.

DESCRIPTION OF THE ADVERTISED POSITION (DC 13)

This is a 3-years full time position as a doctoral candidate under the auspice of the MSCA DN programme. The successful candidate will develop new image processing and analysis methodologies for less or non-invasive full quantitative LAFOV PET studies in infection and inflammation as well as new quantitative model-independent kinetic analysis approaches. The candidate will also be involved in developing motion correction methods applicable to dynamic LAFOV PET/CT studies and will explore and implement AI-based solutions for PET quantification in infection and inflammation. Within the course of this project, we have planned 1-month secondments to *Aarhus University Hospital* (Denmark), the *Turku PET center* (Finland) to advance kinetic modelling and image analysis tools and, *CollectiveMinds* (Sweden) to implement analysis tools for clinical research. Further, the project may include short-term visits to different PREFERENCE partners for data and software exchange as well as participation to networking activities, training schools, and international conferences annually. The candidate will have the Vice President of Research from *Siemens Medical Solutions USA* as a coach and an international academic mentor from *Turku PET center*.



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 — a ‘doctoral candidate’ (i.e. not have a doctoral degree).

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

SPECIAL REQUIREMENTS

- Successfully completed studies in Physics, Medical Physics, Computer Science, Artificial Intelligence, Biomedical Engineering, Electrical Engineering, Computational Engineering or alike (MSc degree or equivalent)
- Excellent command of the English language (<https://www.rug.nl/education/phd-programmes/prospective/phd-positions/english-language-requirements?lang=en>)
- Excellent communication skills (a pre-requisite for cooperating in a multi-disciplinary environment)
- Willingness to travel and flexibility are essential due to the nature of the MSCA DN
- Technical skills will be of benefit
- Prior experience with medical imaging data will be of benefit

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 years. The successful candidate 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 for the Netherlands), 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/>

UMCG: <https://www.umcg.nl/>





Full applications should include

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

Applications should be submitted online at the official job portal of UMCG by the 31st of August 2026.

In case of any procedural questions, please contact: preference@amsterdamumc.nl

