

PhD position in “Simultaneous Dual Tracer Imaging with Positron Emission Tomography”

Department

Nuclear Medicine & Molecular Imaging

Environment

The University Medical Center Groningen (UMCG) is one of the largest 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 well-established international reputation for its state-of-the-art infrastructure and front-end research activities together with its internal and external collaborations. At least as important as a pleasant working environment is a pleasant living environment. Groningen is a thriving University City set in quiet, spacious surroundings.

Background and PhD position description

The Department of Nuclear Medicine & Molecular Imaging has installed a Siemens Vision Quadra PET/CT 1m long positron emission tomograph (PET) scanner accompanied with a state-of-the-art computed X-ray tomographic (CT) system. As one of the first centres (worldwide) with such a scanner, a new research line will be to explore novel opportunities that such a system offers.

Professor Charalampos Tsoumpas has recently launched a molecular imaging physics program which includes a team of 7 PhD students who focus on the development of novel quantitative methods for analysing dynamic PET data obtained with the Siemens Vision Quadra PET/CT scanner.

The PhD project will focus on the development of non-invasive, quantitative methods for dual tracer PET potentially using artificial intelligence (AI) methods and advanced image reconstruction methods to separate the signal of the two tracers. Research output will be presented at scientific meetings and published in peer-reviewed journals.

What do you need?

You should be a creative and passionate researcher with a degree in Physics, Medical Physics, Computer Science, Data Science, Applied Mathematics, Artificial Intelligence, (Biomedical) Engineering, Biomedical Sciences or Computational Biology with a very strong interest in imaging science. Excellent communication skills (in English) and expertise in software development are essential. The research should result in a PhD thesis.

What do we offer?

You will get a four-year contract (36 hours per week). Your salary will be a minimum of € 2.789,- gross per month in the first year and a maximum of € 3.536,- gross per month (scale PhD) in the final (4th) year, based on a full-time appointment. In addition, the UMCG will offer you 8% holiday pay, and 8.3% end-of-year bonus. The conditions of employment comply with the Collective Labour Agreement for Dutch Medical Centers (CAO-UMC).

Supervisory Team & Collaborators:

UMCG: Professor Dr. Ir. C. (Harry)Tsoumpas, Professor Dr. A. (Adriaan) Lammertsma, Dr. Adrienne Brouwers, Dr. Joyce van Sluis, Dr. Derk-Jan de Groot (Medical Oncology).

Siemens Healthineers: Dr. Antonis Kalemis, Dr. Maurizio Conti, Dr. Niels Schurink, Dr. Veerle Kersemans.

Applications

All documents should be submitted by the 1st of September: letter of motivation (maximum one A4 page) stating the earliest possible starting date, brief curriculum vitae, and, if available, undergraduate and/or postgraduate theses as well as any (co)authored publications. We anticipate that shortlisted candidates will be interviewed in September (tentative date: Tuesday 24/9) with a starting date in the beginning of 2025.

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