PhD Candidate to the Department of Nuclear Medicine, Aarhus University Hospital Aarhus – a three-year full-time position

Would you like to develop new long axial field view (LAFOV) PET CT methodologies and perform LAFOV PET/CT clinical studies? Would you contribute to a fruitful collaboration in a multi-disciplinary team consisting of radiopharmacists, biologists, physicists, computer scientists, and nuclear medicine physicians? Are you a curious and positive person? Then you're the one we're looking for as our new PhD candidate.

Long axial field of view (LAFOV) PET/CT has recently been put into widespread clinical and scientific use. Due to its unique properties, it is an ideal medical imaging modality to study diseases and molecular processes at the whole body/systems biology level. However, LAFOV PET/CT is so new that the necessary tools, methodologies, imaging procedures and skilled scientists still need to be developed to effectively address key applications in patient care and research.

PREFERENCE will train the next generation of researchers specialised in LAFOV PET/CT. By performing research in clinical, academic and industrial environments, researchers within PREFERENCE will receive training in a unique combination of scientific, technical and transferable skills across disciplines and sectors.

PhD PROJECT. Dynamic whole-body LAFOV PET/CT imaging of organ-specific insulin resistance in diabetes

HOST INSTITUTION. Aarhus University Hospital (AUH), Department of Nuclear Medicine

Aarhus University Hospital is one of Denmark's largest university hospitals and provides highly specialised patient care, clinical research and teaching in close collaboration with Aarhus University. The PhD candidate will be affiliated with the Department of Nuclear Medicine, Aarhus University Hospital, and the Department of Clinical Medicine, Aarhus University.

The Department of Nuclear Medicine provides functional imaging with PET and SPECT for clinical diagnostics and research across major disease areas. The department has strong expertise in quantitative PET imaging, tracer kinetic analysis, radiochemistry, and clinical translational research. The multidisciplinary research environment includes nuclear medicine physicians, physicists, radiochemists, radiographers, clinicians and data scientists.

AUH has extensive experience with dynamic PET, kinetic modelling and parametric imaging, including LAFOV PET/CT and translation of methodology to standard PET/CT. The clinical environment also has experience conducting hyperinsulinemic-euglycemic clamp studies during PET imaging, enabling studies of tissue- and organ-specific glucose metabolism in patients with diabetes.

DESCRIPTION OF THE ADVERTISED POSITION (ESR AUH)

This is a 3-year full-time position as an early-stage researcher (ESR) under the auspices of the MSCA Doctoral Network programme. The successful candidate will develop and apply dynamic whole-body LAFOV PET/CT methods to quantify organ-specific glucose uptake and insulin sensitivity in patients with diabetes.

The project will use same-day FDG PET protocols to assess both basal and insulin-stimulated organ-specific glucose uptake.

The ESR will perform dynamic PET image analysis, kinetic modelling and parametric imaging to identify in which organs insulin sensitivity is reduced in diabetes. The work will also include test-retest studies to establish repeatability measures and repeatability coefficients for future clinical intervention trials.

The ESR will contribute to methodology relevant for both LAFOV PET/CT and standard PET/CT, including compartmental modelling, dynamic whole-body PET protocols, and approaches that support broader clinical implementation.

Planned secondments and short-term visits to PREFERENCE partners (Amsterdam, Edinburgh and Gothenburg) will provide training in complementary expertise such as kinetic modelling, quantitative image analysis, and clinical implementation. Exact secondments will be confirmed within the consortium training plan.

PREFERENCE is supported by the European Union's Horizon Europe research and innovation programme under the Marie Skłodowska-Curie grant agreement No 101307478.

GENERAL ELIGIBILITY CRITERIA

Mobility Rule: The fellow may not have resided in Denmark for more than 12 months in the 3 years immediately prior to the recruitment date and must not have carried out their main activity, such as work or studies, in Denmark during that period.

Early Stage Researcher: The fellow must be, at the date of recruitment, an early-stage researcher; that is, in the first four years full-time equivalent of their research career and not in possession of a doctoral degree.

SPECIAL REQUIREMENTS

- Successfully completed studies in medicine, physiology or similar masters program.
- Very good command of the English language; Danish language skills are not required but will be considered an advantage for clinical collaboration.
- Strong motivation to work at the interface of clinical diabetes research, quantitative PET imaging and translational methodology development.
- Good communication skills and ability to cooperate in a multidisciplinary environment involving clinicians, physicists, data scientists, radiochemists and industrial partners.
- Willingness to travel for secondments, network training events and collaborative research visits.
- Prior experience with PET/CT, dynamic imaging, FDG studies, clinical research, diabetes/metabolism research or hyperinsulinemic-euglycemic clamp studies will be an advantage.
- Start working between 1 January 2027 and 1 April 2027.

FURTHER INFORMATION

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

AUH Department of Nuclear Medicine: https://www.en.auh.dk/departments/department-of-nuclear-medicine/

Aarhus University Hospital: https://www.en.auh.dk/

Project contact: Lars C. Gormsen, Clinical Professor, Department Chair, Department of Nuclear Medicine.

We'll add you to our onboarding app two weeks before your first day. You'll get to know the department, explore our tools, and discover the opportunities and future perspectives we offer. You get an experienced mentor who serves as your sparring partner and guide as you become an integrated member of our professional and social community.

Full applications should include

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

Applications should be submitted online: rikke.nan@rm.dk by December 1st 2026. In case of procedural questions, please contact rikke.nan@rm.dk

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