



Master thesis projects at Cluster for Molecular Imaging

Using molecular biology and molecular imaging (PET, CT and MRI), we work to develop, evaluate and use non-invasive molecular imaging for better diagnosis, prognostification and tailored therapy. In addition, we also develop new theranostics.



At the Cluster for Molecular Imaging, we have access to both clinical (Rigshospitalet) and pre-clinical (Panum) state-of-the-art facilities for advanced research. The group is highly interdisciplinary, and consists of medical doctors, (human) biologists, engineers, pharmacists, physicists, etc. Each student is assigned a senior researcher throughout the project.

The work we do is translational, meaning that problems at the clinical bedside are researched at a basic level involving animal models and scanners dedicated for these. The results are then without delay translated into the clinic for the benefit of the patients. The projects involve multiple cancer types and various cardiovascular diseases.

Examples of possible master thesis / OSVAL-II projects include:

- Non-invasive and invasive pre-clinical evaluation of PET imaging in relation to radiotherapy.
- Pre-clinical study of the impact of radiotherapy on the development of atherosclerosis examined by PET imaging, MR spectroscopy, immunochemistry, autoradiography, and qPCR.
- Retrospective clinical studies of FDG-uptake in the carotid artery before and after stroke, and correlation to new tracer models.
- *In vivo* imaging of metastasis and tumor response monitoring in pre-clinical human cancer mouse models using PET and diffusion-weighted MRI.
- Atherosclerotic plaque imaging in patients with PET/MRI.

Please contact professor Andreas Kjær (masterthesis@molecularimaging.dk) for further information.

