

Research Project

Name of Institution and department: Department of Radiology and Nuclear

Medicine, Maastricht UMC+, The Netherlands

Link to website: www.mumc.nl

City and Country of Institution: Maastricht, The Netherlands

RESEARCH GROUP

Brief description of the research group and of its mission:

The Department of Radiology and Nuclear Medicine at Maastricht University Medical Center+ (MUMC+) is an internationally recognized academic center with extensive expertise in abdominal imaging, oncologic imaging, advanced CT technologies, and translational imaging research. The department closely collaborates with the multidisciplinary Hepato-Pancreato-Biliary (HPB) program, integrating radiology, surgery, gastroenterology, oncology, pathology, and medical physics. The research group is committed to advancing precision imaging through the development and clinical implementation of innovative imaging technologies, quantitative image analysis, and artificial intelligence. Its mission is to improve diagnostic accuracy, treatment stratification, and response assessment, ultimately enhancing patient outcomes in complex diseases such as pancreatic cancer.

TITLE OF PROPOSED RESEARCH PROJECT

Advanced Photon-Counting CT for the assessment of pancreatic cancer and therapy response.

OBJECTIVES

- To investigate the potential of Photon-Counting Detector CT (PCD-CT) for improved characterization of pancreatic lesions.
- To develop and evaluate quantitative imaging biomarkers derived from advanced CT acquisition and reconstruction techniques for tissue characterization and treatment response assessment.

APPLICANT'S DUTIES

- Design and conduct imaging research studies within the pancreatic cancer program.
- Perform quantitative image analysis, data interpretation, and scientific dissemination through peer-reviewed publication(s).

APPLICANT'S BENEFITS

The applicant will gain hands-on experience with state-of-the-art Photon-Counting CT technology and advanced quantitative imaging methodologies within a leading academic imaging environment. The fellowship will provide access to a unique multidisciplinary pancreatic cancer research infrastructure, international scientific collaborations, and dedicated mentorship from experts in abdominal imaging and translational oncology. Furthermore, the applicant will develop expertise in quantitative imaging, and clinical research methodology, strengthening their profile as an independent academic radiologist and future leader in oncologic imaging research.

- Project Leader: Dr. B. Martens
- Members:
 - L. Stammen, Radiographer
 - S.A.W. Bouwense, HPB surgeon
 - J.E. Wildberger, Head of the Department of Radiology and Nuclear Medicine