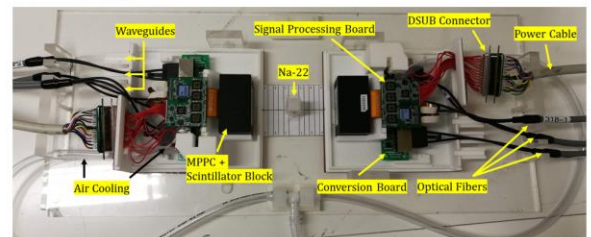
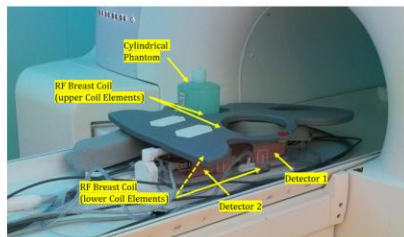
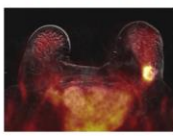
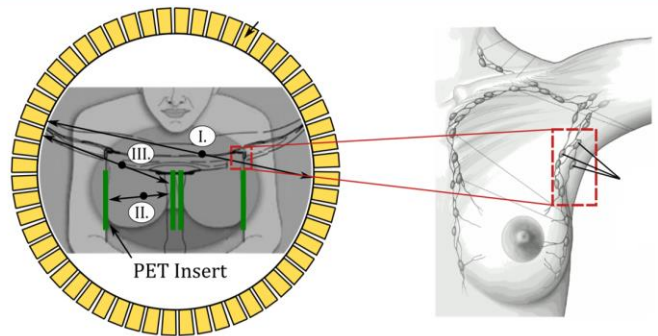


PhD Position

“Development of a Breast PET/MRI Insert”

Physics/Engineering (f/m/d) 65%



The Department of Preclinical Imaging and Radiopharmacy is an internationally renowned group at the forefront of preclinical imaging research, focusing on novel imaging technologies, developing the next generation of Positron Emission Tomography (PET) scanners and multimodality imaging devices, as well as novel tracers, biomarkers and in vivo biomedical research.

We are seeking for a PhD student (f/m/d) to join our Detector Physics group. Within this group, we are pioneering the development of nuclear and multimodality imaging instrumentation, such as the combination of PET and magnetic resonance imaging (MRI). For the detection of PET events, we use novel silicon photomultipliers (SiPM), high performance electronics such as application specific integrated circuits (ASIC), field programmable gate arrays (FPGAs), and innovative scintillators. We work closely together with major national and international imaging instrumentation companies to translate our developments into clinical applications.

We are looking for a highly motivated candidate to join our Detector Physics team for the development of a breast PET insert and share our vision of using state-of-the art technology to improve breast imaging.

Breast cancer is the most commonly diagnosed cancer (1 in 8 women) and the leading cause of cancer death. PET has the potential to detect cancer based on alternated biochemical and molecular processes within tumor tissue. In addition, the fusion of PET and MRI provides accurate morphological and functional data that is advantageous for the diagnosis, staging and therapy monitoring of breast cancer.

Current clinical PET/MRI scanners are designed for a wide range of applications and are not solely used for breast imaging. To improve breast imaging, our group is developing a PET insert dedicated for the breast with a high spatial resolution and detection sensitivity, which will be integrated into a clinical PET/MRI scanner. The successful candidate will work on this DFG-funded project together with academic and industrial collaborators with strong expertise in the fields of PET detector development/system design, GATE Monte Carlo simulations, MR coil design and PET image reconstruction.

The candidate will work together with motivated and experienced colleagues to finalize and scale up the prototype PET detectors to the full PET insert. The candidate will actively contribute to the system design progress, evaluation and construction of different RF shielding, experiments for mutual MRI compatibility with the clinical PET/MRI scanner, construction of a mechanical support structure for the integration of the MR coil, development of a water/air cooling concept and innovative PET event processing.

The candidate should ideally have expertise/keen interest in hardware development, electrical circuit design and software development, as demonstrated by a relevant Master of Science degree in the field (e.g. physics, electrical/mechanical engineering). Experience in programming (e.g. Python, MATLAB, C++), CAD design (e.g. Autodesk Fusion), 3D printing, electrical circuit design and layout (e.g. EAGLE), PET and MRI are an advantage. **The most important criteria are a strong interest in medical imaging research, a “get this done” mentality, and sharing our vision of using new technologies for better patient care.**

We offer to work at a high scientific level in a young, experienced and well-funded research team with an excellent interdisciplinary infrastructure providing state-of-the-art life science and clinical environments. We offer the opportunity to publish in leading international journals and to present the research to an international scientific community. Furthermore, we are connected to a strong network providing an excellent platform to cooperate with local, national and international research labs.

The position can be filled as soon as possible in part time (65 %) and is initially limited to one year with the possibility of further extension. We offer remuneration in accordance with TV-L (collective wage agreement for the Public Service of the German Federal States), severely handicapped persons with equal qualifications are given preferential consideration. The University of Tübingen is anxious to increase its quota of female scientific staff, and therefore emphatically requests women to apply for this position. Interview expenses are not covered. Please note the applicable vaccination regulations. Personnel appointments will be made pursuant to the fundamental stipulations of the legal statutes for universities in Germany.

Interested candidates should apply with a complete CV (including photograph and date of birth), all certificates and grades of University educations and potential jobs/interns as well as the names and contact details of at least one referee (former professor/advisor/mentor).

For more information, please visit: www.isct.uni-tuebingen.de/wsic/

If you have any questions, please contact Dr. Fabian Schmidt, office.wsic@med.uni-tuebingen.de,
Tel. +49 7071 2987161

Application Deadline: **15.02.2024**

Please upload your application and documents to our recruiting portal (job offer number is 3666):
[https://jobs.medizin.uni-tuebingen.de/Job/3666/PhD-Student-\(f-m-d\)](https://jobs.medizin.uni-tuebingen.de/Job/3666/PhD-Student-(f-m-d))

Universitätsklinikum Tübingen
Radiologische Klinik
Präklinische Bildgebung und Radiopharmazie
Office WSIC
Röntgenweg 13
72076 Tübingen
office.wsic@med.uni-tuebingen.de



WSIC
Werner Siemens
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