



Our research focus is on exploring the physical limits of current and future molecular imaging technologies. These areas range from simulations of new detector concepts, hardware prototypes, high-speed data processing, image reconstruction algorithms and applications using our research imaging prototypes. Our group consists of students and researchers from different disciplines: physics, engineering, computer science and medicine. We are a group with international network and close links to industry and RWTH spin-offs.

## PhD Position: Pioneering the Future of PET/MRI in Medical Imaging

Join us at the forefront of medical imaging technology as part of the HD-Meta-PET project (BMBF). We are innovating by developing a PET insert for our state-of-the-art 1.5T MRI system—an opportunity to contribute directly to advancements that could revolutionize diagnostic capabilities in healthcare! In the exciting upcoming project phase, we will complete the integration of our newly designed PET detectors within the MRI. This integration requires a clever and precise electromechanical concept for the PET system inside the MRI bore. Our chair has demonstrated significant expertise in PET-MRI system integration, with a proven record of adapting each installation to meet specific research requirements.

### Key Responsibilities:

- Characterize detector performance systematically.
- Develop integration concepts for PET modules in MRI.
- Investigate RF shielding strategies.
- Design cooling and power systems.
- Collaborate with workshops and manufacturers.

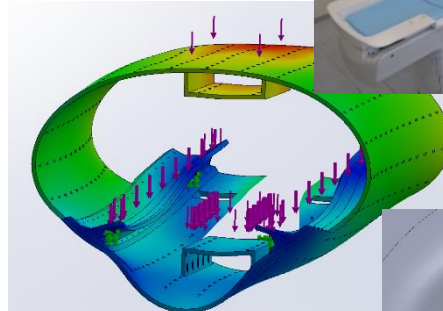
### Your Profile:

- Passion for mechanical design; CAD skills (SolidWorks).
- Ability to work in multidisciplinary teams.
- Experience in data analysis and machine learning is a plus.
- Basic knowledge of electromagnetic fields is advantageous.

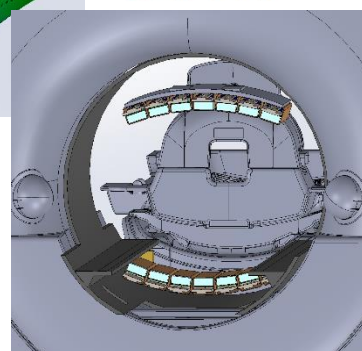
### What We Offer:

- Contribute to groundbreaking research in medical imaging.
- Access to a fully equipped 1.5T MRI system.
- Collaborative environment with experienced researchers.
- Support for professional development and training.
- Flexible working arrangements promoting work-life balance.

More information on the project and the PET platform can be found on the websites of [LFB](#) and [Hyperion](#).



**HD-META  
PET**



[Chair of Imaging and Computer Vision](#) (Univ.-Prof. Dr.-Ing. Volkmar Schulz)  
Kopernikusstraße 16, D-52074 Aachen, head-office phone: +49 241 80 27860  
Contact: David Schug, [David.Schug@lfb.rwth-aachen.de](mailto:David.Schug@lfb.rwth-aachen.de)

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