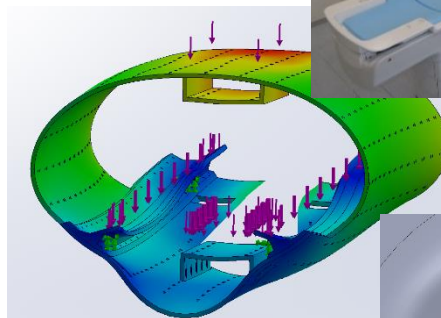




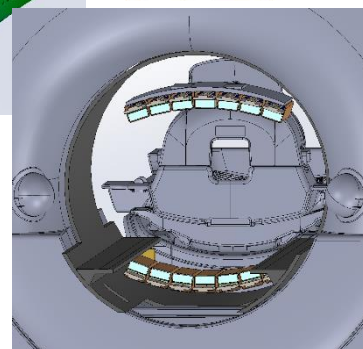
Our research focus is on exploring the physical limits of current and future molecular imaging technologies. These areas range from simulations of new detector concepts, hardware prototypes, high-speed data processing, image reconstruction algorithms and applications using our research imaging prototypes. 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 Positions for Design & Characterization of PET/MRI Modules

As part of the HD-MetaPET project (BMBF), we are developing and integrating a PET insert for our research chair's existing 1.5T MRI system. 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. A crucial aspect of this design and integration are the need for low electromagnetic interference between the PET and MRI system to allow for undisturbed simultaneous acquisition and an innovative integration concept. Our chair has demonstrated significant expertise in PET-MRI system integration, with a proven record of adapting each installation to meet specific research requirements.



HD META
PET



Key Responsibilities:

- Development of novel mechanical integration concepts for PET modules in MRI.
- Investigation of RF shielding strategies for optimal MRI signal integrity
- Design and implementation of cooling and power distribution systems
- Collaborate with the local workshop and external manufacturers to produce components.
- Participate in the commissioning, testing, and installation phases, working closely with the team.
- Systematic characterization of detector performance parameters

Candidate Profile:

- Strong affinity for mechanical design and experience with CAD tools (SolidWorks).
- Ability to work effectively in a multidisciplinary team, particularly in the context of MRI system integration.
- Basic knowledge of electromagnetic fields and thermal management in electronic systems is an advantage.

What We Offer:

- Opportunity to contribute to cutting-edge research in medical imaging and develop expertise in PET/MRI.
- Access to a fully equipped 1.5T MRI system for research purposes.
- An excellent collaborative and innovative working environment with experienced researchers.
- Support for professional development and training in relevant technical areas.

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

[Lehrstuhl für Bildverarbeitung](#) (Univ.-Prof. Dr.-Ing. Volkmar Schulz)

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