

Dr. Martin Beyer



Martin Beyer earned his medical degree from the University of Rostock, where his doctoral thesis focused on characterization of cardiac mesenchymal stem cell populations after myocardial infarction. During the first three years of his cardiothoracic surgery training at the University Heart and Vascular Center Hamburg, he studied valvular heart disease and its interventional treatment, and applied AI-based CT imaging for automated assessment of cardiac morphology and function. In 2023, supported by the German Heart Foundation, he joined the lab of Christine and Jonathan Seidman in the Department of Genetics at Harvard Medical School as a postdoctoral fellow, where he co-developed CaMViA-3D, a deep learning-based pipeline for 3D cardiomyocyte segmentation and microstructural analysis. He integrated these measurements with single-nucleus RNA sequencing and spatial transcriptomics to dissect genotype- and stage-specific remodeling in hypertrophic cardiomyopathy in human tissue and a genome-edited pig model. He has now returned to Hamburg as a physician-scientist, continuing his training in cardiothoracic surgery and establishing a translational research program integrating advanced cardiac microscopy, deep learning-based image analysis, and multi-omics to advance understanding of cardiac microstructure in health and disease.