Maike Frye

Maike Frye obtained her PhD at the Max Planck Institute for Molecular Biomedicine in Münster, Germany, under the supervision of Prof. Dr. Dietmar Vestweber, where she studied mechanisms regulating blood vessel function. She then moved to Uppsala University, Sweden, as a postdoctoral research fellow in the laboratory of Prof. Dr. Taija Mäkinen, focusing on lymphatic vascular development.

In 2019, she returned to Germany to establish her independent research group as a junior group leader at the University Medical Center Hamburg-Eppendorf (UKE). In 2023, she was appointed W3 Professor for 3R Models and Vascular Biomedicine and named a Principal Investigator of the German Centre for Cardiovascular Research (DZHK). Since December 2025, she has been heading the newly founded Hamburg Center for 3R Research (HC3R) at the UKE. Maike's research explores how the tissue microenvironment shapes endothelial cell behavior and their crosstalk with surrounding cell types, with a particular focus on angiocrine signaling between endothelial cells and cardiomyocytes. Using a combination of tissue nanoindentation, atomic force microscopy (AFM), high-resolution live and confocal imaging, advanced endothelial/cardiomyocyte co-culture systems, and single-cell and spatial multiomics approaches, her team aims to identify novel mechanosensitive and signaling pathways that regulate endothelial and cardiomyocyte function during cardiovascular development and disease.

Additionally, her group investigates the comparative biology of lymphatic and blood endothelial cells to uncover fundamental principles of endothelial specialization and to understand how dysregulation of lymphatic signaling contributes to lymphatic and cardiovascular disorders.