Mona Malek Mohammadi

Dr. Mona Malek Mohammadi is a group leader at the Institute of Physiology I at the University Hospital Bonn, Germany. Her research is dedicated to understanding cardiovascular disease, with a particular focus on the mechanisms that enable heart regeneration in early life. Using both neonatal and adult cardiac injury models, her team explores how the regenerative capacity of the neonatal heart could inform new strategies to promote repair in the adult heart.

Her lab takes a multidisciplinary approach, employing high-resolution cardiac imaging, genetic lineage tracing, transcriptomic analyses, and both in vivo and in vitro experiments to investigate the molecular and cellular processes underlying heart regeneration. A central aim of her work is to understand the interactions between key cardiac cell types—such as cardiomyocytes, fibroblasts, immune and endothelial cells—and how these interactions change across developmental stages and under pathological conditions.

Dr. Malek Mohammadi earned her PhD from Hannover Medical School in Regenerative Sciences part of the REBIRTH Cluster of Excellence. She brings a strong background in cardiovascular physiology, developmental biology, and regenerative medicine. Her research strives to bridge the gap between fundamental insights into heart regeneration and the development of innovative therapies for heart failure. Through this work, she aims to contribute to the discovery of new treatment strategies that could one day restore damaged heart tissue in patients with cardiovascular disease.