

Image- and experiment-based modeling of the forgotten right side: Right ventricle, tricuspid valve, and venous blood clot

My laboratory focuses on image- and experiment-based mechanical modeling of the cardiovascular systems. Specifically, we focus on the historically understudied right ventricle, tricuspid valve, and on venous blood clot. Coincidentally, these systems appear to be disproportionately affected by this current COVID pandemic, which has highlighted their underappreciated importance. By means of above systems, I'll show case our use of computational methods as a means to interpret mechanical test data, mechanically analyze in-vivo data, and perform predictive simulations.

Dr. Rausch is an assistant professor at University of Texas at Austin where he has affiliations with the Department of Aerospace Engineering & Engineering Mechanics, Biomedical Engineering, and the Oden Institute for Computational Engineering and Sciences. He has taken this position after training in small and large animal models, computational mechanics, and experimental methods at Yale, Stanford, University of Utah, Georgia Tech, ETH Zurich, and University of Stuttgart.