

Since 2000, Dr. Wende has explored the regulation of metabolism and mitochondrial function with a specific focus on glucose utilization in heart and muscle. The research in the Wende laboratory focuses on deciphering molecular pathways mediating metabolic changes that accompany diabetes, hypertension, and exercise training. Specifically, we have two primary goals: 1) determine the role of cardiac mitochondrial metabolic substrate switching, and 2) determine the role of cellular glucose delivery on molecular regulation. The laboratory focuses on post-translational regulation via O-GlcNAcylation, metabolomics, and gene expression via epigenetics. For epigenetics research the studies have focused on DNA methylation in human heart failure as well as rodent models and most recently the impact of mitochondrial regulation on histone acetylation. His work has been continuously funded by the American Heart Association, the JDRF, and NIH.