

Camila Hochman-Mendez, PhD

The Texas Heart Institute



Date Friday, January 31, 2025

Time 12:00 to 1:00 PM

Location S 105

Title: *Automating Tissue Engineering: Innovations in Scalable and Standardized Organ Biofabrication*

Abstract: Automation is revolutionizing the field of tissue engineering by enabling scalable, standardized, and efficient fabrication of complex biological constructs. This presentation will explore advancements in automated platforms designed for decellularization, recellularization, and bioreactor optimization in the engineering of functional organ scaffolds.

Key insights will include the challenges of maintaining biological integrity during automation and the innovative solutions being implemented to address them. This research underscores the critical role of automation in advancing organ engineering toward clinical applications, bridging the gap between experimental models and real-world therapeutic solutions.

Bio: Camila Hochman-Mendez, PhD is a biomedical researcher specializing in organ bioengineering and regenerative medicine. As the Director of the Regenerative Medicine Research Department at The Texas Heart Institute, she oversees a multidisciplinary team engaged in advancing tissue preservation and replacement techniques. Her innovative research focuses on ex vivo organ perfusion systems, extracellular vesicle-based therapies, and cutting-edge approaches for improving transplantation outcomes.

Dr. Hochman-Mendez has pioneered the use of decellularized scaffolds for whole-organ engineering and is actively developing bioreactors for coordinated electromechanical stimulation of engineered tissues. She has secured funding from the NIH and the American Heart Association, among others, and is deeply involved in collaborative projects aimed at translational applications in cardiac and pulmonary health.