

CARNEGIE MELLON UNIVERSITY

BME 2025 SPRING SEMINAR SERIES

β Biomaterials: Supporting Islet Function In Vivo



PRESENTED BY

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SCHEDULE

Doherty Hall (DH) 2315

Tuesday,
February 4, 2025
(11:00-12:00 PM)

Insulin-producing beta cells are crucial for maintaining blood glucose homeostasis. However, inflammatory processes unique to chronic pancreatitis and type 1 diabetes can damage and ultimately destroy these vital cells, resulting in blood glucose dysregulation. By leveraging the convergence of biology, immunology, and materials science—including nanotechnology—physiological trigger-responsive polymeric biomaterials can be developed to precisely modulate inflammatory responses. This seminar will explore how rationally designed biomaterials can halt destructive processes and establish anti-inflammatory niches that support the sustained viability and function of native or transplanted beta cells, addressing pressing clinical challenges.

