

DEPARTMENT OF BIOMEDICAL ENGINEERING PRESENTS

Fall 22 Senior Seminar
Friday, September 23, 2022
2pm, Tower 1F6-1



Endothelialization of implantable cardiovascular devices

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Abstract: Regenerative engineering promises to deliver next-generation tissue and organ replacements capable of remodeling, repair, and growth. Such capabilities would provide for improved safety and durability compared to existing treatment options. This seminar will cover the development of nanoparticles and nanofibers used to capture and retain endothelial cells with magnetic force. This seminar will also cover newer approaches for enhancing endothelial cell adhesion based transcriptomic analysis. These approaches are being applied to implantable cardiovascular devices including coronary stents, stent-grafts, vascular grafts, flow diverters, and heart valves for the purposes of improving healing and blood-compatibility. Both in vitro and large animal implantation studies will be presented.

Biography: Brandon Tefft earned his PhD in Biomedical Engineering from Northwestern University in 2011. He then went to Mayo Clinic for a postdoctoral research fellowship in the Department of Cardiovascular Medicine. He is currently an Assistant Professor in the Joint Department of Biomedical Engineering at the Medical College of Wisconsin and Marquette University in Milwaukee, Wisconsin. He directs a research program in cardiovascular regenerative engineering with current funding from the National Institutes of Health, the American Heart Association, and the Advancing a Healthier Wisconsin Endowment.

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