

Pharmaceutical Sciences Seminar

Wednesday, March 22, 2023

4:00pm

NCRC Building 32 Research Auditorium or [Zoom](#)

“Influence of Vascular ECM Hydrogels on
the Function of Vasa Vasorum-Associated Cells in Human Aortic Disease”

Presented by:



Julie Phillippi, PhD

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Department of Cardiothoracic Surgery

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ABSTRACT: Dr. Phillippi leads an interdisciplinary research team of microvascular enthusiasts who study the vasa vasorum, a network of microvessels that nourish larger arteries and veins. The team’s main goal is to leverage new knowledge of the underlying matrix-mediated mechanisms governing vasa vasorum (dys)function to develop preventative and less invasive surgical treatments for patients affected by cardiopulmonary diseases. The Phillippi Cardiac Research Laboratory utilizes surgically-obtained human tissue and blood to develop *in vitro* human disease models at the cell, tissue, and whole vessel levels. There is focused attention on the perivascular microenvironment of the adventitia, vasa vasorum-associated cells, and extracellular matrix (ECM) signaling. In this presentation for the Department of Pharmaceutical Sciences at the University of Michigan, Dr. Phillippi will discuss the involvement of vasa vasorum in cardiopulmonary disease and share her team’s progress in understanding microvascular remodeling and the influence of biochemical and biophysical ECM cues on vasa vasorum-associated cells. There will be a focus on observations from human aneurysmal specimens and the team’s approach to develop vascular ECM hydrogel biomaterials as *in vitro* disease models and therapeutics to gain a new understanding of human aortic disease from the perspective of the vasa vasorum.

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