NJIT New Jersey Institute of Technology | BME

Department of Biomedical Engineering

# Graduate Seminar


## Dr.Peter Galie

Associate Professor,
Department of Biomedical Engineering,
Rowan University


***Sept 15*** (Fri)
11:30am – 1:00pm
***CKB 217***

## *Putting the 'blood' in blood-brain barrier models: hemodynamics in vascularized microfluidics*


*Abstract:*

Our laboratory developed one of the first 3D models of the blood-brain barrier and used it to find that shear stress is an important regulator of barrier formation and maintenance. Yet like many in vitro studies, our initial studies used culture medium to apply shear stress to the vessel wall, ignoring the interplay between the endothelium and blood components and cells. Recently we have developed a microfluidic setup to recirculate whole blood through endothelialized channels to evaluate how different hemodynamic profiles affect both endothelial tight junctions and blood chemistry, with a particular emphasis on the effect of flow separation on coagulation-associated pathways. My talk will describe our initial findings and discuss future directions to study blood-endothelial interaction in controlled, in vitro environments.


## *About the Speaker*

I started my faculty appointment at Rowan University in 2015 after completing a post-doctoral appointment jointly advised by Drs. Paul Janmey and Christopher Chen. My laboratory's research has been funded by the New Jersey Health Foundation, American Heart Association, Neilsen Foundation, NSF, and NIH.