



PI4D Special Seminar

February 7, 2019
10:00 – 11:30 am
DLR 221

Daniel Debroy was born and raised in Guatemala City, Guatemala. He obtained his bachelor's in Chemical Engineering from the Universidad del Valle de Guatemala in 2014 and moved to the University of Wyoming in Laramie, WY to continue his graduate education. He completed his PhD in Chemical Engineering in 2018 and moved to the Indiana Biosciences Research Institute (IBRI) in Indianapolis, IN, where he's currently a postdoctoral fellow in microfluidics. His research focus at the University of Wyoming was in microfluidics and polymer science. In particular, he used droplet microfluidics to produce hydrogel micro- and nano- particles with precisely controlled size and shape, as well as mechanical properties, network architecture, and chemical composition tailored for individual applications. Microfluidic platforms also enable using mathematical models to predict fluid flow and mass transfer at the microscale, facilitating the fabrication of custom hydrogel structures for a wide assortment of biological applications such as therapeutic delivery, biosensing, and cell encapsulation. At the IBRI, he developed functional prototypes for point of care diagnostic tools, combining microfluidics, electrochemistry, and mass spectrometry, and uses surface-functionalized hydrogel resins to capture bacteria and other biological targets of interest.

Dylan Frabutt is a postdoctoral fellow at the Indiana Biosciences Research Institute. A native of Dearborn, Michigan, he received his bachelor's degree from the University of Michigan-Dearborn in Microbiology and his Doctorate from Michigan State University in Microbiology and Molecular Genetics. Dylan's research during his tenure at the IBRI been in product development and application of silica nanoparticles as diagnostic reagents. His thesis research was concerning the viral envelope glycoproteins of human immunodeficiency virus (HIV) and influenza A virus (IAV) regarding their folding in the endoplasmic reticulum (ER). Specifically, the role of ER resident mannose trimming enzymes and their effects upon the expression of each glycoprotein via endoplasmic reticulum-associated degradation (ERAD) were investigated.

Speakers:

Daniel Debroy
Dylan Frabutt

