Bioengineering approaches to address neural injury from regenerative medicine to nanotherapeutics

Speaker: Sarah Stabenfeldt, Associate Professor at Arizona State University’s School of Biological and Health Systems Engineering

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Where: Stanley Quek, Trinity Biomedical Sciences Institute

Over 1.7 million persons sustain a traumatic brain injury (TBI) in the U.S. alone. TBI is initiated by a mechanical injury and leads to a biochemical injury that is largely responsible for long-term functional and cognitive deficits. However, there are limited clinical therapeutic treatment options currently available for TBI patients where notably none address the underlying pathology and only alleviate secondary symptoms (i.e. edema, intracranial pressure, etc.). This talk will focus on bioengineering approaches our lab is exploring to promote regeneration/repair after TBI that ranges from nanoparticle-based systems to stem cell transplantation.

Dr. Sarah Stabenfeldt is an Associate Professor at Arizona State University’s School of Biological and Health Systems Engineering. She received her B.S. in Biomedical Engineering from Saint Louis University and her Ph.D. in Bioengineering from Georgia Institute of Technology. She leads her research team in developing regenerative medicine strategies for acute neural injury with a main focus on traumatic brain injury. Since joining ASU, Sarah has been awarded the Arizona Biomedical Research Consortium Early Stage Investigator Award, the NIH Director’s New Innovator Award, and NSF CAREER Award.