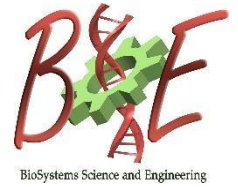




Indian Institute of Science
Centre for BioSystems Science and Engineering



Seminar

At 4:00 PM on 24th September 2018 (Monday)
CES Seminar Hall, 3rd Floor Biological Sciences Building

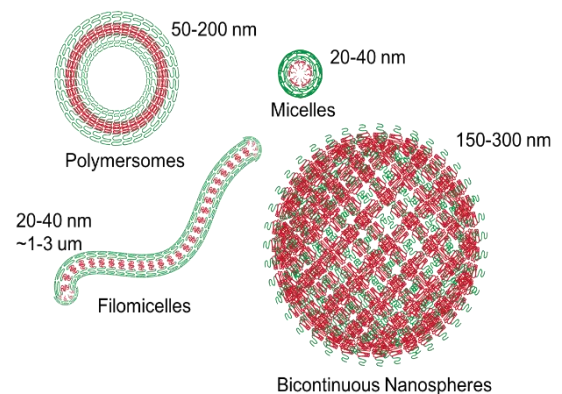
Engineering Morphologically Diverse Self-Assembled Nanocarriers for Immunomodulation

Dr. Sharan Bobbala

Postdoctoral Fellow, Northwestern University

Abstract

Self-assembled nanomaterials provide numerous advantages for the administration of therapeutics, particularly as carriers of immunomodulatory agents targeting specific immune cell populations during immunotherapy. Through the use of such rationally designed nanomaterials, we aim to investigate the basic inflammatory and immunological processes contributing to diverse pathologies and develop targeted immunotherapies. A key parameter of nanocarrier design is the nanoarchitecture, which strongly influences release kinetics of therapeutics, in vivo transport, biodistribution, and cellular uptake. The self-assembly of block-copolymers allows the formation of morphologically diverse soft nanoarchitectures, but presents several engineering challenges, namely: loading efficiency, scalability, repeatability and ease of fabrication. Here, I will present some of our ongoing work in the areas of nanobiomaterials development, controlled delivery and immunomodulation



About the Speaker

Dr. Sharan Bobbala is currently a Postdoctoral Fellow in Prof. Evan Scott's Nano-Immunoengineering lab at Northwestern University. He obtained his Ph.D. in Pharmaceutical Sciences from the University of Otago, New Zealand and the B. Pharm and M. Pharm (Industrial Pharmacy) from the Kakatiya University, India. His dissertation work was performed in the laboratory of Prof. Sarah Hook, where he developed multiple single-shot vaccination strategies using smart injectable hydrogels. He established collaborations with many interdisciplinary scientists from Europe, Australasia and USA. His research interests are in the areas of nanobiomaterials, novel drug delivery systems and single-shot vaccine formulations. His research work has been published in several high-impact journals. Sharan was awarded the Prestigious University of Otago Doctoral Scholarship in 2012 and Northwestern Postdoctoral Professional Development Award in 2018

