



Professor Rohan Shirwaiker

The James T. Ryan Professor

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NC State University
Raleigh, NC**

Date: Friday, Feb. 2, 2024

Time: 1:00 -- 1:50 pm

Location: D2 Lect 2

Advanced Manufacturing of Biological Products

Abstract: Medical implants have the ability to significantly improve the quality of life of patients affected by injuries and diseases. In contrast to current generation of bioinert metal and polymer implants, advances at the intersection of biomedicine and advanced manufacturing are enabling us to create biological tissue substitutes leveraging functional biomaterials and living cells. This talk will summarize our recent efforts in process and quality engineering toward scale-up manufacturing of such “engineered tissues”. Current challenges in the field and exciting opportunities to extend these emerging technologies to domains beyond medical therapeutics will also be discussed.

Biography: Rohan Shirwaiker is the James T. Ryan Professor and University Faculty Scholar in Industrial & Systems Engineering at NC State University. He is also an associate faculty of Biomedical Engineering and Mechanical & Aerospace Engineering and serves as an Associate Director of the NC State Comparative Medicine Institute. His research focuses on advanced manufacturing of biological products for medical and food applications. Shirwaiker is a recipient of awards including the NSF CAREER, SME Outstanding Young Manufacturing Engineer, and IISE Manufacturing & Design Outstanding Young Investigator. He currently serves in various volunteer roles for IISE, SME, ASME, and ASTM.