

**University of Houston - Biomedical Engineering Seminar**  
**Friday, February 10, 2023, 12 noon**  
**Room SEC 105**

**Design of Functional Biomaterials for Soft Tissue Repair**



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**Abstract**

Current biomaterials design strategies are focused on developing biocompatible or bioinert materials that are expected to elicit minimal adverse biological responses at the implant site. Although such biomaterials are useful however don't have the capacity to improve or restore tissue or organ function. Also, the cellular and molecular responses affect the long-term success of the biomaterials. We herein present the design and fabrication of functional biomaterials encoded with immunomodulatory and regenerative attributes to reorient the tissue microenvironment towards regenerative wound repair. Further, utility of these functional biomaterials as surgical implants and in soft tissue repair will be presented.

**Biosketch**

Dr. Ghanashyam Acharya is an Associate Professor in the Department of Michael E. DeBakey Department of Surgery at Baylor College of Medicine and Adjunct Associate Professor in the Department of Materials Science and Nanoengineering, Rice University. Dr. Acharya's research program focuses on the design and development of functional biomaterials and 3D-fabricated drug delivery systems by integrating nanofabrication, 3D-nanolithography, and controlled drug delivery strategies. He works at the interface of medicine, bioengineering, chemistry, and pharmaceuticals. Dr. Acharya's research program is funded by NIH, DOD, and CPRIT.