**Department of Chemical Engineering**

**Seminar Schedule**

**Applications of Biomaterials in Translational ImmunoEngineering and Diagnostics**

Abhinav P Acharya

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Abstract

In this presentation, the concept of ImmuneEngineering will be introduced. Specifically, the idea of biomaterials based modulation of the immune system for therapeutic outcome in cancer, infections and autoimmune disorders will be touched upon. Additionally in this presentation, development of translational diagnostic kits for detection of bladder cancer will be discussed. Bladder cancer is one of the most expensive disease to treat from detection to death because of the expensive diagnostic devices. Furthermore, although hematuria (blood in urine) is the most common symptom of bladder cancer, 90–95% of hematuria cases are benign. These hematuria patients unnecessarily undergo invasive, and expensive evaluation for bladder cancer. Therefore, there remains a need for noninvasive office-based tests that can rapidly and reliably rule out bladder cancer in patients undergoing hematuria evaluation. In this presentation, a clinical assay termed Ammps will be presented, which generates a visual signal and can detect hematuria positive bladder cancer negative patient population with 100% accuracy.

Bio

is a Postdoctoral Associate in the Department of Chemical and Petroleum Engineering, University of Pittsburgh where he has been actively involved in mentoring and research. Prior to University of Pittsburgh Dr. Acharya was involved in research and teaching activities at Bioengineering Department, University of California, Berkeley and at Materials Science and Engineering, University of Florida, Gainesville. Dr. Acharya received his B.Tech in Metallurgical/Materials Science and Engineering from NIT Trichy, India, and his PhD from University of Florida in Materials Science and Engineering. Dr. Acharya’s research involves working at the interface of medicine and engineering, and developing translational therapeutic and diagnostic strategies. Dr. Acharya’s work is recognized nationally and Internationally. Dr. Acharya’s current research is focused on developing novel drug delivery vehicles for tuberculosis treatment; developing immunotherapies for cancer, type 1 diabetes, dry eye disease and implants; and developing diagnostic kits for cancer. Dr. Acharya has been an active member of AIChE, Society for Biomaterials and Biomedical Engineering Society.

**Seminar**

**Friday, Feb 16, 2018**

**3:00 pm**

**Livermore 101**