



IEEE Co-Sponsor
11:30 AM to 12:30 PM
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 White Building, Room 411

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Interfacing Engineering, Biology, and Medicine at the Micro and Nano Scale

ABSTRACT

Nanotechnology and BioMEMS can have a significant impact on medicine and biology in a wide range of applications in diagnostics, therapeutics, and tissue engineering. In this talk, we will present an overview of our work in Silicon-Based BioMEMS and Bionanotechnology and discuss the state of the art and the future challenges and opportunities. We will review a range of projects in our group focused towards developing rapid detection of biological entities and developing point of care devices using electrical or mechanical phenomenon at the micro and nano scale. We will present our work on developing silicon-based Petri dishes-on-a-chip, silicon based nano-pores for detection of DNA, point of care biochips or electrical detection of CD4+ cells, and use of mechanical sensors for characterization of living cells.

Rashid Bashir, Ph.D. is the Abel Bliss Professor of Electrical and Computer Engineering & Bioengineering and Director of the Micro and NanoTechnology Laboratory (a campus wide clean room facility) at the University of Illinois. He has authored or co-authored over 110 journal papers, over 150 conference papers and conference abstracts, over 80 invited talks, and has been granted 34 patents. He is a fellow of IEEE and AIMBE. His research interests include BioMEMS, Lab on a chip, nano-biotechnology, interfacing biology and engineering from molecular to tissue scale, and applications of semiconductor fabrication to biomedical engineering, all applied to solve biomedical problems. He has been involved in 2 startups that have licensed his technology.



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