

ECE 600 Seminar, November 8, 2010, 3:45 – 4:45PM, EH 1610

Title:

Microsystems for Health-Care, Environmental Sensing, and Infrastructure Monitoring

Abstract:

Microsystems technologies hold the promise for transforming healthcare, communication, entertainment, and other important aspects of modern life. Implantable microsystems, and microsystems for monitoring infrastructure and the environment are compelling technology drivers. This presentation will review selected research efforts at the University of Michigan Engineering Research Center for Wireless Integrated Microsystems that highlight a few of the opportunities and challenges. Examples of current research in microsystems on the medical side include neural prostheses, drug delivery devices, and smart stents. Environmental sensing examples include microsystems for gas chromatography, water chemistry analysis, and radiation detection. Infrastructure monitoring is directed primarily at structural integrity. Taken together, these applications drive basic research in sensing, stimulation, signal conditioning, communication methods, packaging, and power management.

Bio:

Yogesh B. Gianchandani is presently a Professor at the University of Michigan, Ann Arbor, with a primary appointment in the Electrical Engineering and Computer Science Department and a courtesy appointment in the Mechanical Engineering Department. He was in the ECE Department at U.W. Madison from 1997-2002. Prof. Gianchandani serves as Director for the Center for Wireless Integrated Microsystems (WIMS) at the University of Michigan. He has published more than 200 papers in microsystems-related conferences and journals and has more than 30 patents issued or pending. From 2007 to 2009, he served at the National Science Foundation, as the program director for Micro and Nano Systems within the Electrical, Communication, and Cyber Systems (ECCS) Division. Dr. Gianchandani was a Chief Co-Editor of Comprehensive Microsystems: Fundamentals, Technology, and Applications, published in 2008, and served as a General Co-Chair for the IEEE/ASME International Conference on Micro Electro Mechanical Systems (MEMS) in 2002. Dr. Gianchandani is a Fellow of IEEE.

