

## Spring 2015 Seminar Series

Presented by the ECE Division

### UNIVERSAL HYBRID MEMS-IC PLATFORM FOR INTERNET OF EVERYTHING

WEDNESDAY APRIL 8, 2015

12:30 PM – CREOL 103

Internet of Everything (IoE or IoT) is gaining currency as a revolutionary next generation technological platform for high speed wireless, wireline, and smart sensor networks. The ever increasing size of this global network has led to the exponential growth of the data traffic ( $> 1.4\times$  per year) in recent years, requiring lower power transceivers with higher data throughput and smaller form factor. In addition to the high speed data communication, the IoE concept challenges the scientists to ensure reliable and smart connectivity of billions of intelligent objects across the globe at a low cost. These stringent requirements create a unique opportunity for scientists to develop a universal platform to integrate the various components of next generation global connectivity. Hossein will discuss the development of a true IoE-compatible network consisting of smart sensors and low power cognitive radios. He will also present innovative solutions to overcome obstacles in creating a low cost universal platform to integrate such sensors with low power RF circuits to improve the performance and reduce the cost.

#### DR. HOSSEIN MIRI LAVASANI

Qualcomm-Atheros



Hossein Miri Lavasani is currently a Staff RF/Analog IC Design Engineer at Qualcomm-Atheros working on the development of multi-band radio transceiver circuits for connectivity, cellular, and GPS applications. He received his Ph.D. degree from Georgia Institute of Technology, Atlanta, in 2010 under the supervision of Dr. Farrokh Ayazi working on the development of gigahertz MEMS-CMOS reference oscillators. His research interests include the development of smart RF circuits for Internet of Everything (IoE) connectivity. His work on interface circuit design for MEMS and sensors has led to 6 published journal articles in various journals such as the IEEE J. of Solid-State Circuits and J. of Microelectromechanical Systems as well as 11 conference papers in prestigious IEEE conferences such as the ISSCC and IEDM. He also hold 4 issued U.S. patents.

