



## SEMINAR

**Room 1003 ETB**

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### **RF Energy Harvesting: A literature review**

by

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**Abstract:** RF power is used for wireless communications and it could be found almost everywhere. So, it is a cheap source of electrical energy to power up battery-less or long life rechargeable battery systems. The power density of the transmitted signals depends on both frequency and time. RF power harvesting can be used to extract the power from Industrial, Scientific and Medical (ISM) band 900MHz and 2.4GHz, wireless mobiles, TV stations, Radio stations and Commercial satellite TV. All of these are available power in air and ready to be converted to useful power. The RF power can be received and converted to DC power which can be used to power electronic devices. The process of RF power rectification to DC power has gained a lot of attention in many disciplines especially for RFIDs.

In this presentation, the possibilities of RF harvesting systems are discussed with emphasis on both parts the transducer which is the antenna and the front end which is the rectifier.

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**Mohamed Abouzied** received the B.Sc. and M.Sc. degrees, both in electrical engineering, from Cairo University, Cairo, Egypt, in 2008 and 2011, respectively. From 2008 to 2011, he was a Teaching and Research Assistant with Faculty of Engineering, Cairo University. Since 2011, he joined Analog and Mixed Signal Center, Texas A&M University. He is the recipient of Qualcomm Fellowship in 2012-2013 and Texas Instruments Fellowship in 2013-2014. In summer 2010, he worked as an analog IC design engineer with Si-Ware Systems Company, Cairo, Egypt. In Summer 2013, he was a Design Intern with RFIC team of Nvidia, Richardson, TX. He is currently pursuing his Ph.D. in Texas A&M University. His research interests include energy harvesting front ends, power amplifiers, power management ICs, battery charging systems and transceiver systems.