

University of Pittsburgh RFID Center of Excellence

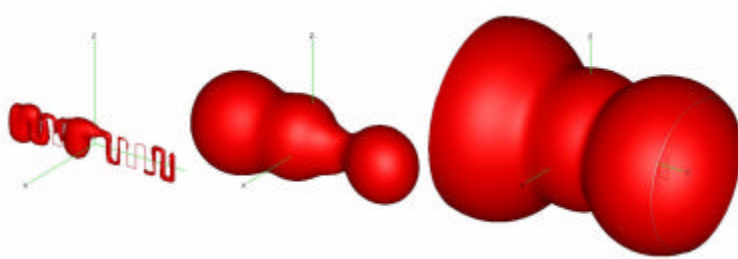


Tuesday August 5, 2008

Time: 6:30PM

**University of Pittsburgh
Room 360 Benedum Hall**

**Darmindra D. Arumugam
Researcher, University of Pittsburgh**



“Characteristics of Passive RFID Systems in Metallic Environments”

The performance of a typical passive RFID system is dependent on the frequencies, number of tags in the field, obstacles in the environment, humidity, temperature, RF interference, tag to reader separation, polarization mismatches, effective radar cross-section, and reader identification algorithm. The factors that are used to describe the governing effect of the typical tag communication rate (or read rate) are the tag antenna design, as well as the tag design and implementation, where the tag antenna is typically derived by responses due to the antenna size, polarization, and directionality. The free space characteristics of passive UHF RFID tags are well known. However, their operation in complex metallic environments has not previously produced significant research. In this presentation, the operations of passive UHF RFID tags are discussed for complex metallic environments. Commercially available passive RFID tags are evaluated independently for wire and surface currents to give insights into their operation around metals. Theory and simulations are used to predict stages of tag responses for varying boundary conditions in these complex metallic environments.

Questions and Discussion: 7:00PM

RFID Center Members will meet at 5:00PM in Room 330 Benedum Hall

For Additional Center Information: Call 412 / 624 - 9682

or email: rfid@pitt.edu