

## **Fault Tolerance Measures of k-Covered Wireless Sensor Networks**

**Speaker: Mr. Habib Ammari, CReWMaN Researcher**

**Date: Friday, Nov 3, 2006**

**Time: 10 am - 12 noon**

**Venue: WH 413 (CReWMaN Lab)**

### **Abstract:**

A wireless sensor network (WSN) is said to be functional if there exists a communication path between any pair of non-faulty sensors in the network. The notion of functionality and hence fault tolerance strongly depends on the network connectivity. Precisely, a WSN is fault tolerant if it remains functional in spite of sensor failures. Although network connectivity can be used to measure the fault tolerance of small-scale WSNs, it is not appropriate for large-scale networks, such as k-covered WSNs, where every point in the field is sensed by at least k sensors. In this talk, we will introduce new (realistic) measures of WSN fault tolerance by imposing restrictions on the faulty set. We will show that traditional connectivity metric employed to capture fault tolerance underestimates the resilience of large-scale, k-covered WSNs.

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### **Biography:**

Habib M. Ammari is a Ph.D. student in Computer Science and Engineering at the University of Texas at Arlington. His main research interests lay in the area of wireless sensor and mobile ad hoc networking. In particular, he is interested in energy-efficient data dissemination and fault-tolerance in wireless sensor networks. He joined CReWMaN in January 2005 and is working under the supervision of Prof. Sajal Das.