

# UW CENTER FOR PATTERN ANALYSIS AND MACHINE INTELLIGENCE

## GRADUATE SEMINAR SERIES

### An Intelligent Sensor Management Framework for Pervasive Surveillance Applications

**Speaker:** Allaa Hilal

**Date:** April 10, 2013

**Time:** 4:30pm – 5:00 pm

**Place:** E5 (5128) Refreshments will be served

#### **Abstract :**

Sensor Management (SM) refers to the process that plans and controls the use of the sensor nodes in a manner that synergistically maximizes the success rate of the whole system in achieving the goals of its mission in assessing the situation in a timely, reliable, and accurate fashion. Managing heterogeneous sensors involves making decisions and compromises regarding alternate sensing strategies under time and resource availability constraints. Consequently, there is a need for an intelligent Sensor Management Framework (SMF) to drive the system performance. SMF provides a control system to manage and coordinate the use of sensing resources in a manner that maximizes the system success rate in achieving its goals. This work proposes a resource-efficient and intelligent SMF for managing pervasive sensor systems in surveillance context. The proposed SMF significantly enhances the process of information gathering by coordinating the sensing resources in order to collect the most reliable data from a dynamic scene while operating under energy constraints. The proposed SMF addresses both the operation of the coordination paradigm, as well as, the local and collaborative decision making strategies.