

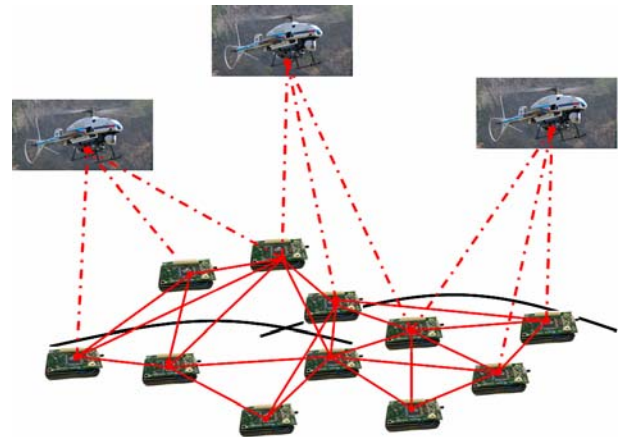
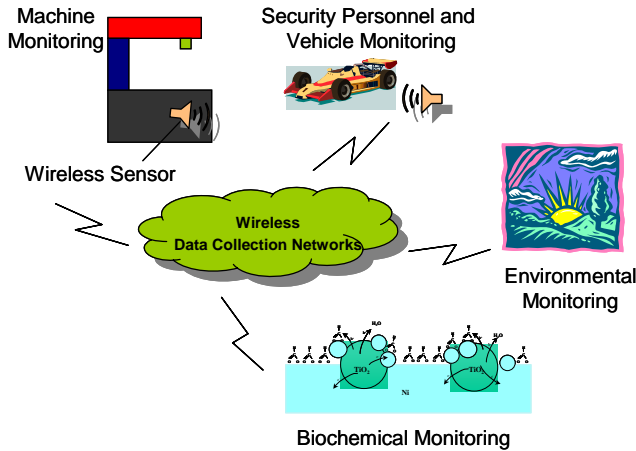
EE 5369 Wireless Sensor Networks Spring 07

F. L. Lewis

<http://arri.uta.edu/acs>

This course covers principles of wireless sensor networks. We will cover network topology; communication protocols; WSN deployment & coverage, self-organization including communications and localization, and Quality of Service. Advanced topics include Mobility in WSN, distributed & collaborative signal processing, data & information fusion, fault tolerance, energy aware routing & sensing, and network security & privacy. Students have the option to program the XBow WS Nodes and learn about hardware implementation issues.

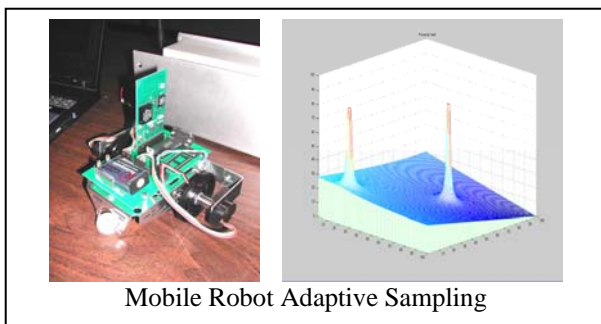
Prerequisite: consent of instructor.
Course outline is linked to:
<http://arri.uta.edu/acs>.



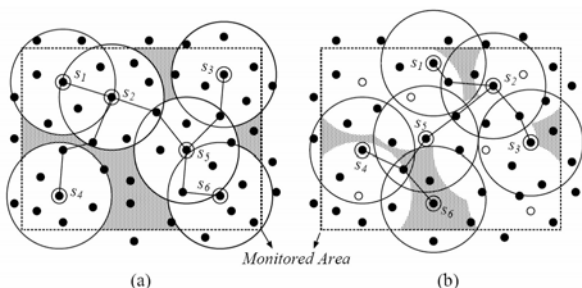
UAV Used for Adaptive Localization and Calibration of Deployed WSN

Applications of Wireless Sensor Networks

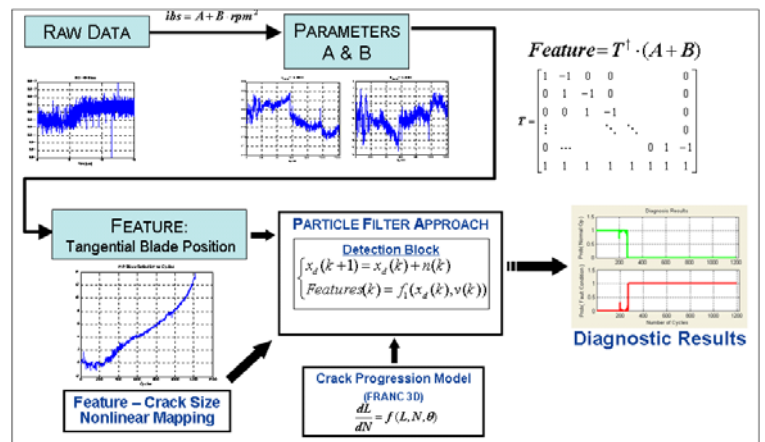
- Secure area/perimeter monitoring & denial
- Monitoring for vehicles/intrusion
- Intelligent machine diagnostics & prognostics
- Environmental monitoring including animal habitats, migration, natural disasters
- Building monitoring including HVAC control and integrity after earthquakes
- Civil infrastructure monitoring, e.g. bridges
- Vehicle traffic monitoring & control including traffic lights, vehicle platoons, etc.
- Remote site patient medical monitoring
- Inventory management
- Smart home



Mobile Robot Adaptive Sampling



WSN sensor coverage & communications connectivity



Intelligent Diagnostics & Prognostics for Aircraft Systems