Wireless and Sensor Network Systems

Dr. Cindy Hood
9/24/13
Wireless Networks

- Is it possible to share spectrum?
  - Air-ground radar
  - Commercial users
  - 4200 – 4400 MHz

- Modeling and Simulation to understand
  - Interference
  - Reqmts for coexistence
Agent Based Modeling

- Channel Selection Mechanism
  - Transceiver Model (frequency, power)
  - Spectrum Sensing
- Environment
- Spectrum Occupancy Data
- Cognitive Radio Network
Spring 2014 Class

- CS 595 Cognitive Radio Networks
Sensor Networks

- Proprietary/Ethernet
- Zigbee/USB
- 3G/4G/LTE/Wifi
Deployed at the Zoo(s)
Sensor Networks at the Zoo

- Sensing
  - Animals
  - Environment
  - People

- Why sense?
  - Animal well-being
  - Research
    - Animal behavior
    - Guest behavior
    - Interactions – Animals/Environment/People
Some Issues

- How to manage different types of sensors/sensor networks
  - Configure
  - Secure
  - Communicate
  - Adapt

- How to manage experiments
  - Define
  - Coordinate
  - Execute

- How to manage data collected
  - Format
  - Label
  - Access
Sound Interesting?

- Please contact me for more info
  - hood@iit.edu
  - Tower 10F6–2