

# Wireless Sensor Network Physical Layer



*Ghada Samhan  
Yuttasart Nitpaichit  
IS 3966 (Ph.D. Seminar)  
12:00 – 3:00 Thurs. Spring 2006  
403 SIS  
Telecommunications Program  
University of Pittsburgh*

## The Lifetime of WSN



- To increase network lifetime
  - Minimize power consumption
- What is power consumption
  - Power consumption can be considered as the average required to transmit one single bit
- Min power consumption can be done at all layers

## Physical layer



- Responsible for
  - Frequency selection
  - Carrier frequency generation
  - Signal detection
  - Modulation
  - Data encryption

Topic here

Telecommunications Program  
Ph.D. Seminar Spring 2006

Slide: 3

## Physical layer



- Relevant factors having effect to power consumption
  - Distance BTW sensor nodes
  - Carrier frequency
  - Modulation
  - Etc

Topic here

Telecommunications Program  
Ph.D. Seminar Spring 2006

Slide: 4