

Day 1 – Tuesday, November 23

Morning

Lecture: "*The Basics of Wireless Sensor Networking and its Applications*"

- Typical structure of a sensor network.
- Examples of common architectures.
- Anatomy of a sensor node and examples of its main components.
- Examples of popular platforms.
- Key constraints of sensor networking and differences from Legacy Wireless and Mobile Ad Hoc Networks.
- Environmental monitoring applications: volcano monitoring, glacier monitoring, wildlife monitoring.
- Applications to e-Health. Applications to civil engineering: Smart Buildings and structural monitoring.
- Applications to agriculture and industrial control. Applications to home automation.

Afternoon

Tutorial: "*Basics of Sensor Network Programming: An Introduction to TinyOS*"

- Why do we need it?
- What does it do?
- C and nesC
- The TinyOS Execution Model
- Modules and Interfaces
- Events, Command, and Tasks
- Basic hands-on examples: Hello World equivalents