Day 3 – Monday, December 13

Morning

Lecture: "*Medium Access Control in Sensor Networks*"

- Medium Access Control basics
- Peculiarities of WSN MAC
- S-MAC
- B-MAC, WISEMAC, X-MAC
- SIFT for event-driven WSNs
- Wake-up Radio concept and STEM
- 802.15.4 MAC overview

Note: the lecture begins at 8:30; we will take a break from 9:45 to 10:30 for the **Santa Lucia Celebration** in **Ljusgården.**
The lecture will resume at 10:30 and continue until 12:00.

Afternoon

Hands-on Session

Activity 1 (mostly instructor-driven)

We will acquire and visualize the RSS as we attempt to reproduce various physical phenomena that affect RF propagation:

- Large-scale path loss
- Shadowing (wall shadowing, body shadowing, floor shadowing)
- Static multipath fading and induced fading

Activity 2 (mostly student-driven)

We will explore Low Power Listening (LPL).

- First, we will focus on an LPL transmitter-receiver pair and run a number of experiments to measure the link PRR and the duty cycle of the LPL transmitter and receiver as we vary the Inter-Packet Interval of the transmitter.
- We will then vary the number of transmitters and study the link PRR and the duty cycle of each of them.