



UNIVERSITA' DI  
PAVIA

# DOTTORATO DI RICERCA IN INGEGNERIA ELETTRONICA, INFORMATICA ED ELETTRICA

## AVVISO DI SEMINARIO

### Fundamentals of Localization in WSNs

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**Abstract** - Localization represents a fundamental issue in most wireless sensor network (WSN) applications. Sensed data without position information is often meaningless. Positioning is also essential for basic mechanisms composing the WSN to work efficiently. Unfortunately, propagation (e.g., indoor), battery drain, cost and size constraints preclude the utilization of GPS in most of the nodes in many WSN applications. In this tutorial, an introduction to short-range ranging and positioning will be provided. In particular, theoretical fundamental limits as well as practical schemes will be explained. The main positioning error sources will be discussed. Some results derived from measured data in real environments will be shown to investigate the effect of system parameters on ranging and positioning accuracy.

**22 aprile 2010, ore 14.30**  
**Lab. di Elettronica e Telecomunicazioni**  
**Fondazione Università di Mantova**

I dottorandi e tutti gli altri interessati sono cordialmente invitati.

**L'organizzatore**

Prof. P. Gamba

**Il coordinatore del dottorato**

Prof. V. Degiorgio