TFYA99 Project Course in Applied Physics, CDIO

Design, Processing, and Test of a Sensor System Project

Development of a demonstrator/field test system for detection of hazardous substances in air quality monitoring applications.

The project in brief

Design, process, and test a prototype sensor system based on an innovative sensor technology of interest for indoor/outdoor air quality monitoring and control.

Your project work will include *design, measurements, characterization of sensors, market search, programming and data analysis, sensor system integration* with, e.g., Raspberry Pi or Arduino.

You will realize your own gas sensor system prototype and test on site!

Skills

- **Technical skills** – Unique laboratory experience and possibility to build up your own experiments and carry out field test measurements!
- **Project management** – Learn how to successfully manage an engineering project to be delivered on time and on budget to your customer
- **Communication skills** – Train your presentation skills in both oral and written forms, learn body language strategies and effective time management
- **Teamwork** – Train your capabilities to work together efficiently in a project team
- **Problem solving** – Identify, analyze and structure problems to achieve successful results
- **Lectures** will cover all necessary knowledge to get started, such as gas sensor technology, software and hardware, market research and analysis, communication skills, effective teamwork, LIPS model and the CDIO initiative

Training with your supervisor in order to get competence on

- Measurements and data analysis
- Hazardous gases of interest for indoor/outdoor air quality
- Innovative sensor technologies and their applications
- Instruments and methods for sensor characterization
- Construction of your own prototype demonstrator