# Proposal

This proposal is based on the outcomes of Gungor 2009. Being the challenges of Industrial Wireless Sensor Networks (IWSN), among others, the resource constrains and the large scale deployment and ad hoc architecture, this work will cover these two points in IWSN.

To solve the resource constrains I will focus on the energy resource. Therefore, a study on energy harvesting solutions for WSN will be performed. Later on, I will make a computational model of an induction energy harvesting. To complete this challenge, I will make an experimental setup to validate induction energy harvesting.

To solve the large scale deployment and ad-hoc architecture I will develop a wireless module for data acquisition of 10 photovoltaic power converters. Commercial solutions will be considered for the radio chips and the purpose is to increase the PCB design skills to achieve this task.

# Outcomes:

1. Report of the study on energy harvesting – 1 week

2. Acquire skills in Ansys Maxwell to develop a mathematical model of the energy harvesting module – 6 weeks

3. Acquire skills in PCB design for the wireless sensor modules – 4 weeks

4. Final report on the activities – 1 week

Added value of this activity (to be evaluated accordingly to the outcomes of the work developed):

1. Inclusion of an auxiliary chapter in TRP related to energy harvesting of IWSN

2. Submission to DCE of work in energy harvesting