

PhD offers

We are seeking several PhD candidates to deal with energy harvesting topics for autonomous sensors inside buildings in the framework of an European project. In particular, we are interested in the following topics:

- Indoors light energy harvesting. First tasks: lab characterization of commercial PV cells, indoor light measurements across the building, in situ characterization of PV cells and their energy output during extended periods of time.
- Thermal energy harvesting. First tasks: laboratory characterization of commercial TEGs, temperature measurements of heat and cold sources across the building, in situ characterization of TEGs and their energy output during extended periods of time.
- Radiofrequency energy harvesting. First tasks: Design, implementation and characterization of high-efficient rectennas, RF measurement across the building and when using RF transmitters, in situ characterization of the rectennas and their energy output during extended periods of time.

In all cases, the tasks will also include the design and implementation of maximum power point trackers (MPPTs) and the fabrication of complete prototypes to power autonomous sensors inside buildings.

Required Bachelor + Master in Electronics/Telecommunications Engineering.

Excellent academic profile required

Salary 1st and 2nd years: 17000 € + 50 % according to performance

Location: UPC, Castelldefels (Barcelona), Catalonia, Spain

Starting date: 1st October 2022