



**Master Internship opportunity:**  
**Fabrication and characterization of organic/silicon structures for photovoltaic applications**

**Project description :**

The student will be part of the [Organic Electronics team at IMS laboratory](#) located inside the graduate school of Physics, Biology and Chemistry of Bordeaux (ENSCBP, Bordeaux, France).

The student will work on the development of organic photovoltaic devices on silicon substrates. These organic/silicon structures will be fabricated as precursors for further developments of hybrid organic/silicon tandem solar cells.

The student will have to develop and optimize organic photovoltaic architecture with top-contact illumination on highly doped silicon substrates. He/she will perform several electrical characterizations to study the silicon surface passivation to improve the electrical contact at the organic/silicon interface. Optical characterization and optimization will also be performed to enhance the light transmission from the top contact.

To date, there has been only a few reports of organic photovoltaic solar cell (OPV) on silicon approaches. This internship will help to investigate suitable organic semiconductors for PV applications on silicon in terms of optical, electronic and passivation properties.

**Student profile:**

Materials scientist, Chemist and/or Electrical Engineering. The master student will deal with materials, thin films, device fabrication, characterization, spectroscopy, semiconducting polymers, and organic photovoltaic. The student needs to be an experimentalist ready to work in gloveboxes, with various fabrication and characterization techniques.

**Location:** IMS lab (CNRS UMR 5218) - ENSCBP, Bordeaux INP, Univ. Bordeaux (France)

**Duration :** 4-6 months depending on student's institution

**Starting :** anytime between Jan-April 2023

**Financial support:** 550 Euros/month

**Supervisors:** Marie GUEUNIER-FARRET and Sylvain CHAMBON.

Application should be sent to

[marie.gueunier-farret@u-bordeaux.fr](mailto:marie.gueunier-farret@u-bordeaux.fr) and [sylvain.chambon@u-bordeaux.fr](mailto:sylvain.chambon@u-bordeaux.fr)

with at least a CV and a Cover letter. Adding one or two Letters of recommendation is a plus.