**Title of the project:**

**Objectives (up to 3 lines):**
To characterize the role and the mechanism of action of NLRP7 in choriocarcinoma (CC) using the CC tumor cell line, the JEG3 and the normal trophoblasts, HTR cells.

**Abstract (up to 10 lines)**
Gestational choriocarcinoma (CC) is the highest malignant trophoblastic tumor. It is associated with mutations in an inflammasome gene called Nlrp7. Our team showed that NLRP7 is overexpressed in CC. The proposed project aims at characterizing the role of NLRP7 in tumor placental development. Two *in vitro* approaches are proposed to investigate the role of and the mechanism of action of NLRP7 in the development of CC. 1) the first study will compare the levels of NLRP7 protein expression between normal and CC trophoblast cells (JEG3) and determine the impact of NLRP7 overexpression and invalidation on key processes of tumorigenesis such as proliferation, migration and invasion in a 3D system. 2) the second study will aim at deciphering the mechanism of action of NLRP7 in normal and tumor trophoblast cells. This will be investigated in relation to the NFKb pathway, recently reported to be involved in the regulation of inflammasome’s machineries.

**Methods (up to 3 lines):**
The Master2 candidate should have strong knowledge in the field of female reproduction, tumor development and progression. Basic cell biology knowledge is recommended

**Up to 3 relevant publications of the team:**