The Laboratory of Tumor and Developmental Biology, GIGA-Cancer, at the University of Liège (Belgium) (PI: Professor Agnès NOEL) has an opening position, immediately available for a PhD candidate.

This project is part of a four years EOS (Excellence of Science) program starting on January 2022, which involves 6 academic teams from the Flemish, Walloon, and Brussels Capital Region, and a foreign expert who has pioneered the research on the pre-metastatic niche.

**Project summary:**

Many cancer types disseminate through the lymphatic system, where lymph nodes (LN) are the first metastatic relay before further spreading to distant organs. There is growing evidence that tumor-emanating signals create a premetastatic niche in sentinel LN that facilitate metastatic cell dissemination. However, the mechanistic underpinnings of how tumor cells induce a pre-metastatic niche in LNs and escape immunosurveillance upon seeding in the LN are less understood. The scope of the consortium is to gain unprecedented insights into the complexity and spatio-temporal evolution of the different LN compartments. The project will decipher tumor-emanating factors involved in the complex tumor-LN crosstalk and identify means to transform the LN environment into a “hostile soil” for cancer cells to prevent metastatic dissemination. The innovative goal is to provide a first holistic view of the spatial and temporal 4D map and detailed trajectory of the vascular, immune, and stromal changes in the LNs from homeostasis to the metastatic state through state-of-the-art approaches (4D intravital imaging, transcriptional, proteomic and metabolic profiling) using endogenous metastatic mouse tumor models and human LN samples of cancer patients.

**Techniques**

The project relies on a panel of in vivo and in vitro assays. It combines cellular, immunohistochemical, cellular and molecular biology techniques: immunohistochemistry, in vivo real time imaging, cell culture, single-cell RNA-Sequencing, proteomics, Western Blotting, RT-qPCR, cell signaling…

The ideal PhD candidate will be highly motivated and has a Master in Biomedical Sciences/Biology/Biochemistry. Interested candidates should send their CV and application letter to Professor Agnès Noel (agnes.noel@uliege.be).