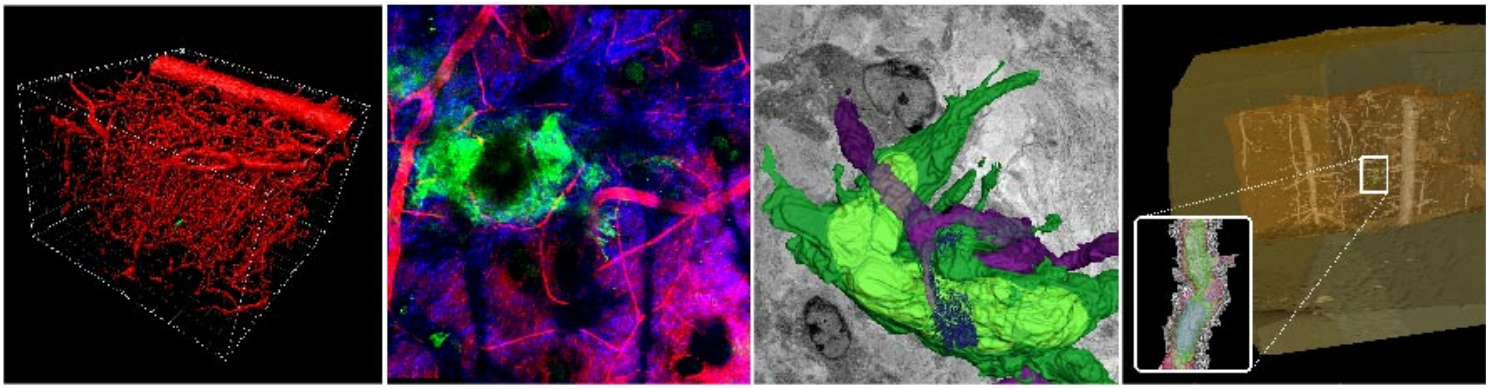
Open post-doctoral position
Intravital correlative imaging of tumor metastasis

The **Goetz lab** (www.goetzlab.com) is looking for a motivated ***post-doctoral fellow*** interested in dissecting ***tumor metastasis using intravital correlative microscopy***. The work will be performed in **Strasbourg (France)** under the supervision of Jacky G.Goetz, in collaboration with international experts of tumor metastasis and imaging.



Our team studies the molecular and biomechanical events underlying **tumor invasion**, **angiogenesis** and **metastasis**. To this end, we are using a combination of models ranging from ***in vitro* cell biology and biophysical assays** (Goetz *et al.,* ***Cell***, 2011) to ***in vivo* animal models** of tumor progression (mice and zebrafish) (Goetz *et al.,* ***Cell* Reports**, 2014). In particular, we are developing intravital imaging and **intravital CLEM** (Correlated Light and Electron Microscopy) technologies for tracking subcellular events *in vivo* at high-resolution (Karreman *et al.* ***PloS One*** 2014; Karreman *et al.,* ***Journal of Cell Science***, 2016; Karreman *et al.,* ***Trends in Cell Biology***, 2016). This development is performed in close collaboration with Y.SCHWAB (EMBL, Heidelberg). More recently, our team was involved in the identification of a new molecular driver of exosome biogenesis (Hyenne *et al.,* ***Journal of Cell Biology***, 2015).

This project aims to dissect the **subcellular mechanisms underlying tumor metastasis at very high-resolution** using **intravital correlative microscopy**. Metastasis can be considered as the end product of a multistep process where cancer cells disseminate to distant organs and home in a new tissue microenvironment. Metastases are responsible for the large majority of cancer-related deaths. However, the molecular and cellular mechanisms driving metastasis formation remain to be elucidated and better described in a realistic *in vivo* context. In collaboration with the team of **Y.Schwab (EMBL)**, we recently developed a technique called **intravital correlative microscopy**. Here, we propose to apply the newly-developed technology to increase our understanding of tumor metastasis, in particular in terms of cell protrusitivity, proteolytic activity, adaptability to local physical barriers and ability to communicate with its surrounding during the metastasis cascade.

The project involves collaboration with **international teams** (EMBL, DKFZ, Curie institute) and uses **state-of-the-art imaging technologies and animal models**. We are looking for an **enthusiastic and motivated fellow (who recently defended his *Ph.D*), with a background in cell and cancer biology and imaging**. Expertise in **intravital imaging and electron microscopy** will be very much appreciated.

Interested candidates should apply as soon as possible or before: **2016 October 1st**

Contact:
Jacky G.Goetz, jacky.goetz@inserm.fr, INSERM U1109, Strasbourg, France
Web: www.goetzlab.com, Twitter: @GoetzJacky

Associated references:

1. Karreman, M. A. *et al.* ***Correlating Intravital Multi-Photon Microscopy to 3D Electron Microscopy of Invading Tumor Cells Using Anatomical Reference Points***. *PloS One* 9, e114448 (2014).
2. Karreman, M. A. *et al.* ***Fast and precise targeting of single tumor cells in vivo by multimodal correlative microscopy.*** *J. Cell Sci.* 129, 444–456 (2016).
3. Follain, G., Mercier, L., Osmani, N., Harlepp, S. & Goetz, J. G. ***Seeing is believing: multi-scale spatio-temporal imaging towards in vivo cell biology***. *J. Cell Sci.* (2016). doi:10.1242/jcs.189001
4. Karreman, M. A., Hyenne, V., Schwab, Y. & Goetz, J. G. ***Intravital Correlative Microscopy: Imaging Life at the Nanoscale***. *Trends Cell Biol.* (2016). doi:10.1016/j.tcb.2016.07.003