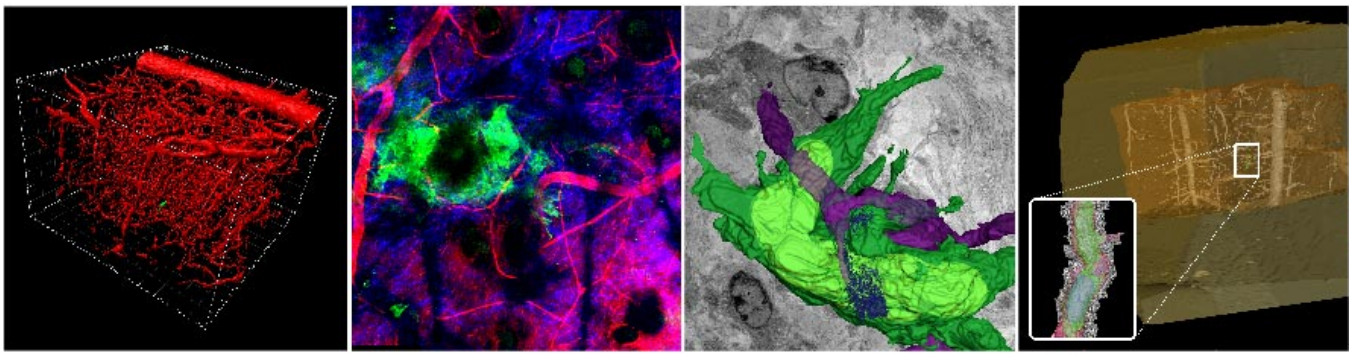
Open position

Technician/engineer position – 1 year

Ultramicrotomy-TEM/SEM/FIB-SEM

Intravital correlative imaging of tumor metastasis

The **Goetz lab** (www.goetzlab.com) is looking for a motivated ***technician/engineer*** interested in participating in multiple projects aiming to dissect ***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. We are looking for an experienced, enthusiastic **technician/engineer with strong background in ultramicrotomy and electron microscopy techniques.**



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).

The Goetz lab develops several projects aiming 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. 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, as well as tumor invasion, 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, EFS) and uses **state-of-the-art imaging technologies and animal models**. We are looking for an **enthusiastic and motivated fellow with a strong background in electron microscopy (processing, ultramicrotomy, acquisition – TEM/SEM/FIB-SEM)**. Expertise in **image processing (FIJI, IMOD, AMIRA, IMARIS)** will be very much appreciated. **Interested candidates should apply as soon as possible (starting date, 2017 February 1st) with ideally one or two reference letters.**

Contact:

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Associated references:

1. Karreman, M. A. *et al. PloS One* 9, e114448 (2014).
2. Karreman, M. A. *et al. J. Cell Sci.* 129, 444–456 (2016).
3. Follain, G., Mercier, L., Osmani, N., Harlepp, S. & Goetz, J. G. *J. Cell Sci.* (2016). doi:10.1242/jcs.189001
4. Karreman, M. A., Hyenne, V., Schwab, Y. & Goetz, J. G. *Trends Cell Biol.* (2016). doi:10.1016/j.tcb.2016.07.003