

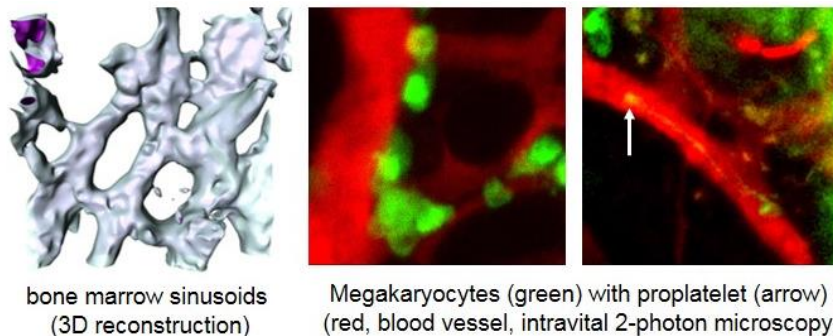
Open post-doctoral position

Intravital imaging to study platelet formation

Postdoctoral Position: “Characterization of rheological parameters within bone marrow sinusoids and involvement in the formation of platelets”

A postdoctoral position is available in Strasbourg (France) at INSERM UMR_S949 (www.u949.inserm.fr). The projects of the team focus on non-resolved questions relating to the formation of platelets by the precursor giant cells called megakaryocytes, especially the part played by the cytoskeleton and the mechanical and cellular microenvironment, with the future aim of improving blood platelet *in vitro* production¹⁻⁴. One still unresolved key step is the release of platelets from the more mature megakaryocytes. Recent *in vitro* developments are focusing on the role of the hydrodynamic forces to facilitate the release of the platelets, similar to those encountered *in vivo*. However until now, there is little information on flow regimens and shear forces present in the sinusoid vessels and their real importance in the release of platelets.

In collaboration with the IGBMC-CBI Imaging Platform (Y. Lutz, B. Gurchenkov, Strasbourg-Ilkirch), we recently set up the technique for intravital visualization of eGFP+ megakaryocytes and platelets in the bone marrow of transgenic mouse skull. Our preliminary observations suggest the existence of complex flows, including inverse flows and stasis, alongside areas of laminar flow.



The project aims to determine 1) the hemodynamics occurring within sinusoid vessels *in vivo*; 2) the possible correlation between the blood flow pattern and platelet formation; 3) how hemodynamic forces contribute to the reorganization of actomyosin and microtubule cytoskeleton in the process of proplatelet release.

The project involves collaboration with the IGBMC-CBI imaging platform to record platelet-forming megakaryocytes from transgenic living mice. Mouse lines defective either in myosin (*Myh9*^{-/-}) or microtubules (*tubb1* -/- or *tuba4a* mutant) are already available.

We are looking for an enthusiastic and motivated fellow with a background in **cell biology** and confocal **imaging techniques**, including knowledge with **image and video analyses and 3D processing softwares**.

Interested candidates should apply as soon as possible.

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1) Eckly A, Heijnen H, Pertuy F, et al. *Blood*. 2014;123(6):921-930. 2) Pertuy F, Aguilar A, Strassel C, et al. *J Thromb Haemost*. 2015;13(1):115-125. 3) Pertuy F, Eckly A, Weber J, et al. *Blood*. 2014;123(8):1261-1269. 4) Aguilar A, Pertuy F, Eckly A, et al. *Blood*. 2016.