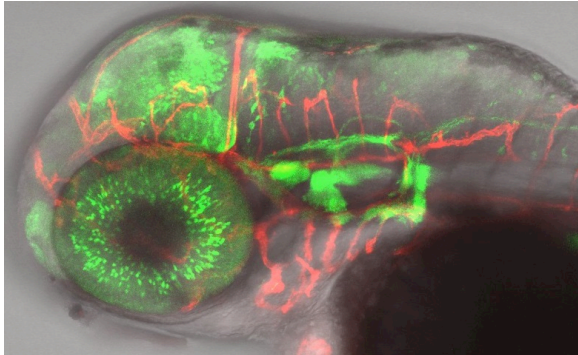


The lab of **Morphogenesis and Cell Signaling in Sensory Systems** at UPF-PRBB offers a PhD position for a highly motivated and excellent student to undertake a PhD on the



**Project. Investigating the sequential brain responses of hemorrhagic stroke in zebrafish**

**Keywords: vasculature, brain neurogenesis and damage, hemorrhagic stroke, zebrafish, regeneration, crispr technology, RNA-seq**

A cerebrovascular accident (CVA or stroke) takes place when brain cells die due to lack of oxygen and nutrients after blood flow is impaired either by blockage (ischemic stroke) or rupture (hemorrhagic stroke) of brain blood vessels. In 2013 approximately 6.9 million people had an ischemic stroke and 3.4 million people had a hemorrhagic stroke. In spite of its high mortality, the sequence of physiopathological events taking place during the hemorrhagic stroke is still not well understood to the lack of proper animal models for its study.

The zebrafish is a powerful vertebrate model to explore cerebrovascular diseases for several reasons. On one hand, the zebrafish transparency allows in vivo imaging of blood vessels and neural cells in the brain. Secondly, zebrafish is an excellent model for genetic manipulation (transgenesis or crispr). Thirdly, the zebrafish has a broader regenerative potential than mammals and thus, by unravelling its regenerative mechanisms, one can hope to extend this knowledge to mammals for brain repair after damage. With this project, the student will first generate a model of hemorrhagic brain stroke by laser ablation of fluorescently labeled blood vessels of the brain. Secondly, the candidate will investigate the early and late responses to vascular brain damage by in vivo imaging of cell proliferation/inflammation/death markers coupled with transcriptomic analysis.

The Alsina's lab, Universitat Pompeu Fabra is located at the Barcelona Biomedical Research Park (<http://www.prbb.org>) with excellent research facilities and a large research community in the fields of developmental biology, systems biology and computational biology. Dr. Alsina has more than 15 years of experience studying inner ear and neuronal development (see [list of publications](#)).

Applications for the above opening should include CV, academic record, letter of motivation and should be sent by e-mail to [berta.alsina@upf.edu](mailto:berta.alsina@upf.edu) before the 15<sup>th</sup> of May 2018. Selected candidates will be interviewed. **Date of Incorporation by July-September 2018.**

Previous experience in animal models, molecular and cell biology techniques or programming will be considered.