

PhD position

The **zebrafish research group** of Prof. Anna Jazwinska at the Department of Biology, **University of Fribourg, Switzerland** is looking for a motivated PhD student with an interest in **regenerative biology**.

The position is available on the project:

“Cellular bases of heart regeneration in diverse fish species” “Role of adhesion molecules in fin regeneration”

Organ regeneration represents a remarkable power of certain animals to reproduce body parts lost by injury. Among vertebrates, urodele amphibians and teleost fish display extraordinary regenerative potential. The zebrafish provides a unique vertebrate model system for regeneration studies due to its genetic amenability and simple maintenance. It is able to restore several organs, such as the appendages, the heart, the spinal cord and retina, all of which display poor regenerative capacities in humans. We do not understand why the regeneration response varies among adult vertebrates. Our goal is to uncover how the adult zebrafish and other fish species can naturally recreate a near-perfect replica of the lost complex tissue.

Our specific aim is to identify the intrinsic genetic programs and external signals that support the regenerative plasticity of the regeneration-competent cells. This undertaking will demand the generation of transgenic fish lines, CRISPR/Cas9 system technology, pharmacological approaches, transcriptome analysis, and imaging techniques. A comparison between fin and heart regeneration will provide insights into the conservation of the molecular machinery between different organs and fish species. A conceptual and molecular understanding of natural regeneration in lower vertebrates will help to build a foundation for regenerative medicine.

Profile

We are seeking highly motivated candidate with a degree in Biology or Biomedical Sciences, preferentially with experience with zebrafish. Candidates must have good knowledge of the English language, and French or German communication skills.

We offer an exciting working environment where quality, professionalism and human contacts are paramount. The candidate will have the opportunity to be part of a dynamic team and provide a meaningful contribution to the identification of biological mechanisms underlying organ regeneration in teleost fish.

Financing: available.

The position is initially offered for one year with a trial period, with possible extension up to four years upon performance.