



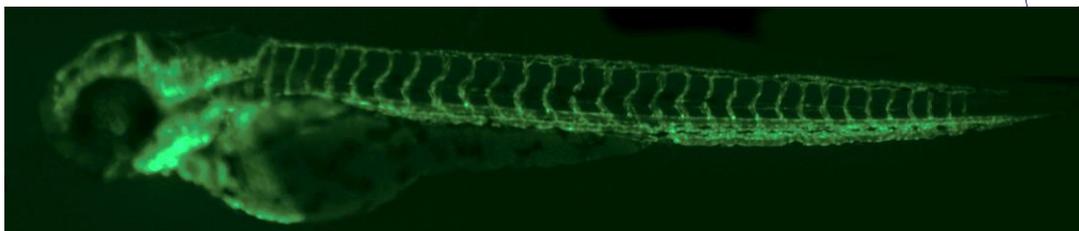
# Master thesis project

## Vascular Development and Angiogenesis

**Very little is known about the proteins, receptors and ion channels involved in vascular development during angiogenesis in cancer. This project aims to reveal novel players controlling the development of new blood vessels, which may lead to new therapeutics.**

The vasculature is the earliest organ to develop and has to be functional throughout embryogenesis. Vascular malformations causing a single leak will affect the entire system during development and have catastrophic consequences. In addition, angiogenesis (the physiological process through which new blood vessels form from pre-existing vessels) is one of the hallmarks of cancer progression. Cancers secrete various growth factors to stimulate the growth of blood vessels towards the cancer, allowing it to survive and spread. Prevention of angiogenesis is a cutting-edge form of anti-cancer treatment. Recently, the first FDA-approved therapy targeted at angiogenesis in cancer came on the market in the US, approved for use in colorectal cancer in combination with established chemotherapy. This project will study vascular development in zebrafish larvae using a wide range of pharmacological agents. We are currently working with zebrafish that have fluorescing vascular endothelial cells, therefore the vascular development can be easily visualized under a microscope and fundamental development changes can be identified. Our aim is to unravel the influence of specific ion channels and receptors, and their role in regulating the complexities of vascular development and angiogenesis.

We will teach you our state-of-the-art techniques and, to begin with, direct the research. We hope your enthusiasm will enable you to learn fast and quickly become more independent, thereby allowing you to take the research in a direction that interest you.



The project is suitable for a Master thesis for students of the study courses medicine, human biology, biomedical engineering, molecular biomedicine.

### ***Place of project and contact information***

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