# RESEARCH IN FISH PHYSIOLOGY, NEUROBIOLOGY AND ETHOLOGI

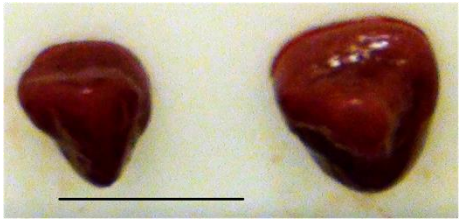
We at the neurophysiology group work on comparative physiology and behavioral neurobiology, we live by the motto: *"science is best when you are having fun"*

We are a diverse group of people who are passionate about science but also make time to enjoy life and plan social activities. At the moment we have several projects that are available for bachelor and master thesis projects:

## Parasite-induced host manipulation in fish

- In this exciting project we are trying to understand the mechanisms behind behavioral manipulation of hosts by parasites in several fish species: the California killifish, Artic charr, zebrafish and medaka. This includes analyzing behavior and neurobiological systems in infected and non-infected fish

## Pathophysiology of heart remodeling in salmonids



- This project focuses on improving the quality and welfare of salmonid fish in the aquaculture industry by understanding heart function and disease in salmonids. This includes analyzing physiological parameters associated with heart function under different aquaculture conditions

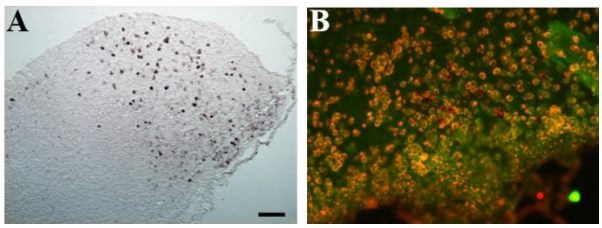
## Depression-like states in fish

- It is intriguing that a certain number of fish within aquaculture systems develop a depression-like state and in this project we are trying to understand why this happens. This includes analyzing behavior, neurobiology and physiology in "depressed" and healthy fish

## Effects of environmental enrichment in behavior and brain morphology in fish

- How does enrichment change cognition, brain morphology (increased neuroplasticity and neurogenesis) and survival of fish is the focus in this project? This includes analyzing behavior, neurobiological systems as well as survival (both in captivity and in the wild)

**Some of the techniques used in our lab are: *In situ* hybridization (A), immunohistochemistry (B), gene expression analysis (qPCR and RNA sequencing), monoamine neurochemistry (HPLC) and hormone analysis by ELISA.**




**Contact information**: oyvind.overli@nmbu.no, marco.vindas@nmbu.no, ida.johansen@nmbu.no