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Background

We use a transparent animal model, the larval zebrafish, to understand *in vivo* processes.

Our lab focuses on the gut-brain axis, the interactions between the gut microbiome, the enteric nervous system (aka second brain) and the immune system. We want to understand how the nervous system regulates the bacteria in the gut.

Our projects involve molecular biology, live imaging, and image/data analysis.

Project 1: Gut brain axis

How does the gut microbiome affect the development of an animal? How strongly can it change the animal's behaviour? Are we what we eat?

These are part of the questions that our lab is asking.

This project will involve live imaging, bacterial culture, behavioural studies and data analysis





Project 2: APOL protein family

The Apolipoprotein-L family is not well characterized. A primate/human specific protein, APOL1, is involved in the resistance to a parasite *T.brucei*, but mutations are linked to a degenerative kidney disease.

The goal will be to understand what function that family plays in zebrafish's biology, and how they may relate to the human proteins.



Recent publications

[1] "Brain-wide visual habituation networks in wild type and fmr1 zebrafish." *Nature Communications*, doi:10.1038/s41467-022-28299-4

[2] "Brain-wide mapping of water flow perception in zebrafish." Journal of Neuroscience, doi: 10.1523/JNEUROSCI.0049-20.2020

