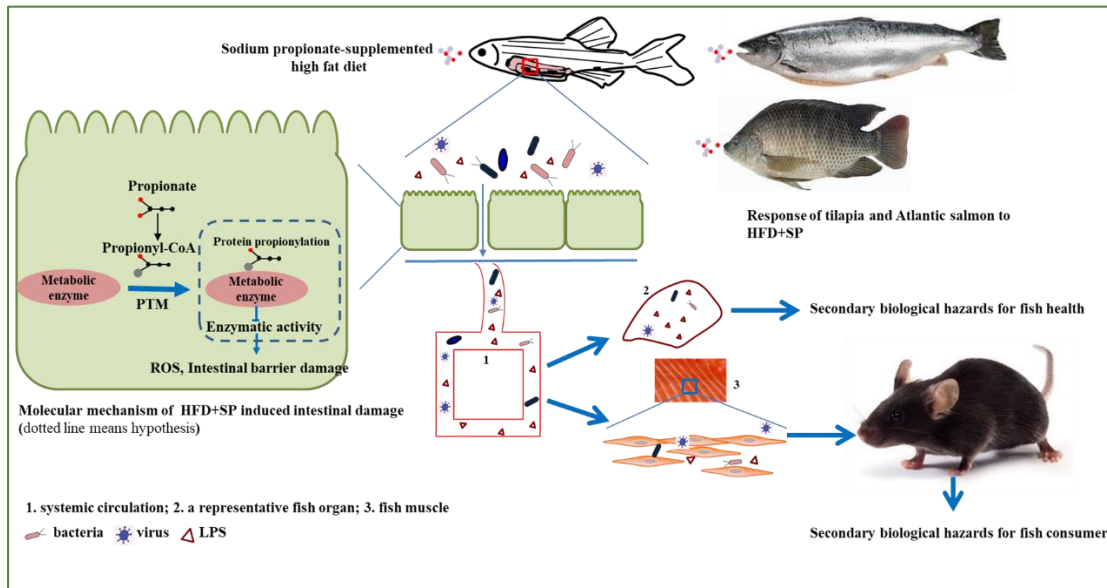


## Topic/Title

Sundt fôr for å produsere sund mat til akvakultur via kinesisk-norsk samarbeid (Feed2Food)

## Topic/Title

Healthy feed to produce healthy aquatic food via Sino-Norwegian cooperation (Feed2Food)



## Summary

The project is at the forefront of scientific research in utilizing molecular, physiological and advanced methodologies to tackle the challenges with feed additives in combination with high fat diets (HFD). As a representative of this challenge, we recently found that sodium propionate (SP), a widely used antifungal additive, induced intestinal injury in zebrafish when fed a high fat diet. This may impair intestinal barrier to an extent leading to microbial and lipopolysaccharide (LPS) translocation over the intestine. We will therefore identify the molecular mechanisms behind the damaging effect of SP. One line of research will focus on protein propionylation of essential enzymes as indicated as one possible causative mechanism. The project will then progress into monitoring possible translocation of intestinal bacteria, virus and LPS into systemic circulation and edible tissues with possible secondary biological hazards that can pose a health challenge for both fish and the consumer. More project info can be found [here](#)

The research project is funded by Norway and China jointly between the Research Council of Norway and the National Natural Science Foundation of China (RCN-NSFC), a 3-year project (2021-2023).

The MSc thesis work will be an important part of the Feed2Food project aiming to understand the consequence of HFD on fish health by using molecular analysis e.g. qPCR, RNA seq, next generation sequencing and bioinformatics. The thesis work involves mainly lab work and thesis writing.



Bachelor or Master thesis BIOVIT 2021/22

**Subject area**

*Biotechnology, molecular biology, aquaculture, fish feed, fish health*

**Language thesis**

*Either Norwegian or English*

**Bachelor or Master thesis**

*Master thesis*

**Credits**

*30 or 60*

**Project/company**

*Biotechnology and Plant Health Division, Norwegian Institute of Bioeconomy (NIBIO), Ås*

**Please contact**

**Main supervisor:** Professor Trond Storebakken, Faculty of Biosciences

Email: [trond.storebakken@nmbu.no](mailto:trond.storebakken@nmbu.no)

**Co-supervisor for laboratory work:**

*Dr Jihong Liu Clarke, project leader (more info [here](#)) and Dr Hang Su*

Research Professor & Coordinator for China Relations

NIBIO, Norwegian Institute of Bioeconomy Research

Pb 115, NO-1431 Ås, Norway

M(+47) 99594790

[jihong.liu-clarke@nibio.no](mailto:jihong.liu-clarke@nibio.no)