Behavioural and physiological response to environmental change in farmed fish.

Type of scholarship: Degree seeking PhD

Period of the scholarship: August 2020 – August 2024

Place of study: NTNU Ålesund

Short description of the scholarship:
Fish welfare is vital for sustainable growth of the aquaculture industry. Knowledge of stress in fish in relation to the production environment and management operations is essential in order to ensure animal welfare. To improve farm operations and technological solutions during the production, reproducible welfare indicators are important for farmed salmon.

NTNU in Ålesund has long experience in fish health and welfare through research, education, cooperation with relevant businesses and private R & D license for production of salmonids in sea. NTNU has for the fist time directly detected fecal corticoid metabolites (FCM) in feces sample from Atlantic salmon and identified the elevation of FCM during infection of pancreas disease and post net-pen cleaning. NTNU also has extensive experience in behavioral analyzes using underwater video of farmed and wild fish.

This project will take advantage of the established behavioral and physiological methods to assess the welfare impacts of environmental change in farmed fish. The recent developed methods for fish welfare assessment, such as wearable health devices for vital sign monitoring, would also be validated and applied to this project. How to effectively using the measurement for control an optimize environment for fish husbandry, especially salmonid aquaculture, will be the main concern of this PhD position.

Qualification and requirement:
- A master’s degree in biology, aquaculture or biotechnology with good grades, with an average grade B or better in NTNU’s grading scale (or an education at the equivalent level), of which transcripts and degree certificates are required.
- The candidate should have knowledge on fish physiology, aquaculture, data analysis and good experience on tank experiment, field operation and biological lab work.

In addition, for all applicants the following applies:
- Fluent English language, both written and spoken with certificates of TOEFL minimum 95 or IELTS minimum 6.5
- Chinese citizenship documents (copy of his/her passport or national ID of P.R. China
- CV
- A motivation letter
Deadline for submission of application: 15th of February, 2020

Scholarship: 17,000 NOK/month for a period of up to 48 months
According to the NTNU-CSC agreement
CSC will provide a living stipend, currently 12,500 NOK per month for a period of up to forty-eight (48) months, and a round-trip international airfare between China and Norway. NTNU will provide a monthly additional funding for a period of up to forty-eight (48) months, which combined with the CSC living stipend ensures the sufficient income (currently minimum 17,000 NOK per month) required by NTNU. No tuition fees will be charged for PhD candidates at NTNU.

Supervisor info:
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Guarantee of the Top-up Funding for the Scholarship of

*(please fill the name of the scholarship)*

I *Tove Havnegjerde* head of the department of *Department of Biological Sciences Ålesund* guarantee that the NTNUs top-up funding for the scholarship of *Behavioural and physiological response to environmental change in farmed fish.* will be provided by *Department of Biological Sciences Ålesund*.

Date 21.01,2020

Place Ålesund, Norway

Signature