



Fakulta rybnářství  
a ochrany vod  
Faculty of Fisheries  
and Protection  
of Waters

Jihočeská univerzita  
v Českých Budějovicích  
University of South Bohemia  
in České Budějovice  
Czech Republic



HR EXCELLENCE IN RESEARCH

**Laboratory of Nutrition** as part of the **Faculty of Fisheries and Protection of Waters** (<https://www.frov.jcu.cz/en/>) at the **University of South Bohemia** (<https://www.jcu.cz/en/>), České Budějovice, Czech Republic.

## **Opening for a bachelor thesis or internship in the field of analytical chemistry**

**Project:** Optimization of Flame-Atomic Absorption Spectroscopy workflows for the analysis of typical samples from aquaculture

### **Background:**

From a chemical-analytical perspective, aquaculture nutrition research deals with the analysis of solid samples such as feedstuffs, feeds, faeces and animal tissue. In this context, metal analysis plays a vital role due to the use of chromium, titanium, and yttrium oxides as inert markers for digestibility trials. Other metals are considered essential for the animals' metabolic activity, affecting cultured livestock's growth and health status (Lall, 2003). However, surprisingly little is known about the inclusion rates of these metals in fish feeds. This is especially noteworthy against the background of dramatic changes in the feed composition over the last decades, with a shift from fishmeal-based diets towards alternative protein sources such as plant protein.

### **The job:**

You will be supervised by our PhD student Anil Tellbüscher during your stay. Your main task will be to optimise a protocol for sample preparation (weighing, digestion, dilution) and analysis (calibration, wavelength selection) to determine several metals using F-AAS. This can be extended by analyses of several samples, for instance, in the scope of a digestibility trial in our in-house facilities.

The position is to be filled from November 2023.

### **What we are looking for:**

We are looking for a student of analytical chemistry or related fields, ideally with prior experience in F-AAS, who can quickly comprehend, is an analytical thinker, flexible, and has a strong interest in applying knowledge to real-life problems.

Proficiency in English is a must, as the thesis must be written in English. We welcome international students to our multinational team and encourage your application.

### **What do we offer?**

The Laboratory of Nutrition combines a young team with state-of-the-art research in aquaculture. As a student, you will participate in all lab activities and receive individual



Fakulta rybnářství  
a ochrany vod  
Faculty of Fisheries  
and Protection  
of Waters

Jihočeská univerzita  
v Českých Budějovicích  
University of South Bohemia  
in České Budějovice  
Czech Republic



HR EXCELLENCE IN RESEARCH

mentorship throughout your stay. We as a team will try our best to let you benefit from your work not only through getting rid of an obligation such as a thesis but also in the form of a scientific publication, if possible and reasonable.

Students who are eligible for an “Erasmus+” grant can receive 490 EUR per month (state: 2023) during their stay. This will cover most expenses as life in the Czech Republic is comparably cheap. Affordable accommodation can be arranged in one of the student dorms on or nearby campus.

Interested students shall send their CV and a short motivation letter to assoc. Prof. Jan Mráz and Anil Tellbüscher in copy. We will fill the position at our earliest convenience.

**Contact information:**

Assoc. Prof. Jan Mráz, Ph.D.

[jmraz@frov.jcu.cz](mailto:jmraz@frov.jcu.cz)

Anil Axel Tellbüscher, M.Sc.

[atellbuscher@frov.jcu.cz](mailto:atellbuscher@frov.jcu.cz)

**References:**

Lall, S.P. (2003). The Minerals. Fish Nutrition. Elsevier Science, pp. 259–308.