



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/master thesis or internship in the field of analytical chemistry**

**Project:** Optimization of Flame-Atomic Absorption Spectroscopy (F-AAS) workflows for the analysis of aquaculture feeds

### **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. 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 feeds (Tellbüscher et al., 2025).

### **The job:**

You will be supervised by our PhD student Anil Tellbüscher during your stay. Your main task will be to optimize a protocol for sample preparation (weighing, digestion, dilution) and analysis (calibration, wavelength selection) to determine several metals using F-AAS. Eventually, feed samples will be analyzed for their content in a series of compounds (C, H, N, S, O, P, K, Ca, Mg, Fe, Mn, Cu, Zn) using F-AAS, an element analyzer, and spectrophotometry.

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

We are looking for a student of analytical chemistry or related fields (or a keen learner), 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 working language in our team is English. In addition, 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



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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.

Foreign students from EU countries are, for instance, eligible for an “Erasmus+” grant of 750 EUR/month (state: 2024). This will cover personal expenses easily. Affordable accommodation can be arranged in one of the student dorms on campus.

Interested students shall send their CV and a short motivation letter to Radek Gebauer, with Anil Tellbüscher in copy. We will fill the position at our earliest convenience.

**Contact information:**

Radek Gebauer, Ph.D.

[rgebauer@frov.jcu.cz](mailto:rgebauer@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.

Tellbüscher, A.A., Gebauer, R., Mráz, J. (2025). Nutrients revisited: Review and meta-data analysis of nutrient inputs into freshwater aquaculture systems. *Aquaculture* 595(2), 741633