**Your full name: Lenka Kajgrová**

**Title of the project: Dynamics of macrozoobenthos in ponds with 2-years-old common carp – how does the benthic community change when carp fed under different (non)balance feeding strategies?**

Macrozoobenthos is an essential link in the food chain in the pond ecosystem and one of the most important natural food components of common carp (*Cyprinus carpio*). Macrozobenthos, together with zooplankton (natural food in ponds), provides high-quality protein with balanced amino acids level, high-quality lipids and easily digestible phosphorus, while their abundance and diversity largely reflect the quality of the pond ecosystem. Current fishpond production is based on (1) natural food (= protein source) and (2) supplementary feeding (e.g., cereals = non-protein energy source). Our pond research team (see Roy et al. 2022) found out that fishponds under the current feeding management cycle nutrients through 3 diet scenarios that are available to carp: "high", "balanced", and "low" natural food availability relative to cereals (cereals supplementation cumulatively increasing to late summer). This student project contributes to balancing these scenarios through zoobenthos research as one of the essential food components of common carp but also evaluates zoobenthos dynamic under current feeding practice (= feeding cereals only) and smart feeding approach (= feeding what carp genuinely need).

The aim of the study is to evaluate the quantitative and qualitative composition of benthic invertebrates in the ponds stocked with 2-year-aged common carp fed with two diets – a conventional (= cereals only) and balanced diet (= supplementation of missing nutrients). Obtained results will be supplemented with carp gut content stoichiometry, zooplankton dynamics and hydrochemistry data that will be sampled at the same intervals. The student project will run as a part of the GAČR project (Nutrients from fish or nutrition for fish: Revealing the hidden risk of pollution and retention of nutrients in ponds through nutritional bioenergetics of fish). Obtained results will enable us to relate changes in natural food dynamics and carp diet to management interventions and, thus, to nutrient flows in the pond ecosystem.

**References:**

Roy, K., Vrba, J., Kajgrova, L., & Mraz, J. (2022). The concept of balanced fish nutrition in temperate European fishponds to tackle eutrophication. Journal of Cleaner Production, 132584.