



# BIOLOGY CENTRE CAS

## Institute of Hydrobiology

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Laboratory of Microbial Cultivation and Ecogenomics | Department of Aquatic Microbial Ecology

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### Open Postdoc position

at the Laboratory of Microbial Cultivation and Ecogenomics, Department of Aquatic Microbial Ecology,  
Institute of Hydrobiology, Biology Centre CAS, České Budějovice, Czech Republic.

**A postdoc position is open to study the mechanisms of growth and survival of oligotrophic freshwater bacteria by using (meta-)transcriptomics, (meta-) genomics, and culture experiments.**

#### Background

A recently granted project by the Czech Science Foundation aims to study the mechanisms of growth and survival of freshwater oligotrophs (MEGASO, GAČR grant 25-15813S). Freshwater lakes are numerically dominated by oligotrophic bacteria that are adapted to low nutrient conditions, however, the reasons for their success are still not well understood. We plan to study the mechanisms of growth and survival of oligotrophs by comparing them to fast-growing copiotrophs. We will systematically compare strains from three oligotrophic model genera (*Fonsibacter*, *Planktophilia*, *Methylopusillus*) to meso- and copiotrophs from our large culture collection based on genomic and growth characteristics. Lab experiments combined with seasonal and diurnal metatranscriptomics will identify growth limitations and *in situ* gene expression to pinpoint fundamental reasons for the overall success of oligotrophs in lakes. We will further investigate a widespread strategy for harvesting light energy, rhodopsin-based photoheterotrophy, by monitoring seasonal and diurnal changes, experiments, and co-expression analyses to identify potential benefits. Finally, we address one of the main mortality factors of aquatic microbes in experiments aiming to resolve the long-standing conundrum if oligotrophs are less affected from grazing by protists than copiotrophs.

#### Requirements

Applicants should hold a PhD in Biological Sciences (e.g., Limnology, Microbiology, Ecology) and must be strongly motivated to continue their work in an ecogenomics laboratory.

Prior experience in one or more of the following areas is favorably considered:

- (meta-)genomic and (meta-)transcriptomic analyses
- shell/perl/python/R programming
- experience in working with bacterial cultures (maintenance, experiments)

Candidates must be proficient in English.

Please submit a professional CV, a brief statement of your research interests and work performed (max. 1 page), a list of publications and the names and contact information of two-three professional references. Preferably combine all this information into a single PDF file and send via email with the subject '**Postdoc position**' to michaelasalcher@gmail.com.

The position is available from July 2025 and will remain open until a suitable candidate is found. The position is funded till December 2027 with a possibility of prolongation.

### **Infrastructure and Benefits**

Position includes standard health insurance and social security and five weeks of holiday yearly. Postdocs have access to accommodation in dormitories at the campus shared by the Biology Centre and the University. Czech courses are available for foreign staff and students to reach a basic level of proficiency in everyday situations. The Biology Centre provides assistance in the visa application process for foreigners.

### **About the employer**

The Department of Aquatic Microbial is an internationally recognized high-class institution for studying freshwater microbes. The Institute of Hydrobiology is the principal institution in the Czech Republic devoted to complex freshwater research of man-made reservoirs and natural lakes and is one of the institutes associated in the Biology Centre of the Czech Academy of Sciences in České Budějovice. The Laboratory of Microbial Cultivation and Ecogenomics has a large culture collection of environmentally relevant freshwater microbes (>7000 axenic strains, >500 genome-sequenced) and the team is experienced in *in-situ* and laboratory experiments and (meta-)genomics.

### **About the location**

České Budějovice is a medium-sized town ca. 150 km south of Prague with 100,000 inhabitants, a relaxed atmosphere, and a growing expat community at the Biology Centre and the University. Both the town and the surrounding countryside provide numerous opportunities for research and leisure activities. Living costs are low by international standards.

### **Contact**

Please don't hesitate to contact me for further information about the position:  
michaelasalcher@gmail.com

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### **Links**

Biology Centre CAS	<a href="https://www.bc.cas.cz/en">https://www.bc.cas.cz/en</a>
Institute of Hydrobiology	<a href="https://www.hbu.cas.cz/en/">https://www.hbu.cas.cz/en/</a>
Department of Aquatic Microbial Ecology	<a href="https://www.hbu.cas.cz/en/structure/ame/">https://www.hbu.cas.cz/en/structure/ame/</a>
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