

Open PhD student position

At the Department of Aquatic Microbial Ecology, Institute of Hydrobiology, Biology Centre
CAS, České Budějovice, Czech Republic

A PhD student position is open to study freshwater phages using high-throughput isolation, comparative genomics, metagenomics and experimental approaches.

Background

Phages (viruses infecting bacteria) are present in all ecosystems and structure microbial communities through the regulation of host populations and the release of host-bound nutrients through lysis. Metagenomic approaches have revealed the huge phage diversity in nature but often failed to assign hosts to phages, especially in freshwater environments. In our lab, we have established a large culture collection of abundant freshwater bacteria. A major focus of this project will be to use these bacteria to isolate their phages and hence conclusively identify phage-host pairs.

In collaboration with other members of the institute a polyphasic approach combining cultivation, genomic and metagenomic approaches will be used to study the host range, natural abundances and dynamics of the isolated phages in a freshwater reservoir.

Requirements

Applicants should hold a M.Sc. in Biological Sciences (e.g., Limnology, Microbiology, Ecology) and must be strongly motivated to work in an eco-genomics laboratory. In the first year, the majority of the work is expected to be laboratory based (sampling, cultivation and molecular work) and moving towards more computational based work (genome and metagenome analyses) in later stages. Prior experience in cultivation of fastidious bacteria (e.g. use of flow cytometry) and phages as well as linux/unix/perl/python programming might be favorably considered but is not a prerequisite for selection. Candidates must be proficient in English.

Please submit a professional CV (including your grades), a brief statement of your research interests and work performed (max. 1 page), a list of publications (if any) and the names and contact information for two professional references. Preferably combine all this information into a single PDF file and send via email with the subject: **Phage-PhD** to markus.haber@gmail.com

The position will remain open until a suitable candidate is found; applications will be evaluated monthly starting January 4th, 2023. Target starting date is early spring 2023 (negotiable), the position is for 3 years, but can be prolonged.

Infrastructure and Benefits

Position includes standard health insurance and social security and five weeks of holiday yearly. PhD students 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. The research

portfolio includes the assessment of biotic interrelations and their interactions with abiotic factors. Limnological interactions are studied both within the waterbodies and within whole catchment. The institute performs research on different levels of interactions from the ecosystem, community, population, organismal, through cellular to molecular levels. The insititute is one of the institutes associated in the Biology Centre of the Czech Academy of Sciences in České Budějovice.

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 positions:
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Links

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| Biology Centre CAS | https://www.bc.cas.cz/en |
| Institute of Hydrobiology | https://www.hbu.cas.cz/en/ |
| Department of Aquatic Microbial Ecology | https://www.hbu.cas.cz/en/structure/ame/ |