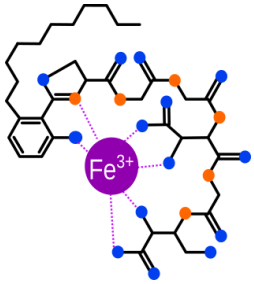
Bioactive Compounds from Cyanobacteria Research Group
at
Centre Algatech
Czech Republic



invites applications for an open
PhD position in Environmental microbiology
on project:
"**Iron monopolization versus community service: the two faces of cyanobacterial beta-hydroxy aspartate siderophores**".

Iron is an essential micronutrient to all known organisms. The prevalently oxidative conditions of our planet enclose otherwise abundant iron into insoluble and poorly biologically available forms. To ensure a supply of iron, microorganisms have evolved several strategies, including the production and excretion of siderophores - compounds that are able to pick up even trace amounts of iron from the environment, facilitate cellular iron uptake and prevent iron conversion to non-bioavailable forms. Recently we have discovered novel photoreactive siderophores in cyanobacteria (Galica et al 2021; https://doi.org/10.1128/AEM.03128-20) and have been awarded funding for a follow-up research

The project investigates roles of photoreactive cyanobacterial siderophores in shaping cyanobacteria-dominated microbial communities, such as how do the photoreactive properties impact the monopolization of iron resources in the microhabitat or how can the production of siderophores support siderophore-deficient microorganisms. The PhD student will be responsible for evaluation of iron uptake rates in several cultivation settings to assess the iron fluxes from siderophore producers to co-cultivated organisms. The research activities will include advanced cultivation and analytical techniques including high resolution mass spectrometry (HPLC-HRMS) for quantification and isolation of siderophores and ICP-MS for quantification of iron. The successful applicant will be accepted to School of Doctoral Studies in Biological Sciences at University of South Bohemia situated in České Budějovice and conduct the research at Center Algatech in Třeboň (Czech Republic).

We seek a motivated candidate willing to provide full professional attention to the project with a systematic approach to problem solving. The candidate should be fluent in English and hold a Msc. degree in one of the following or related fields: biochemistry, natural products, environmental microbiology or plant physiology. Basic orientation in laboratory of analytical chemistry is required. Previous experience with cyanobacterial cultivation, natural products isolation, siderophores, ICP-MS or microbial co-cultures is an advantage.

We offer a position on a promising newly funded project (starting January 2022) in a vibrant scientific community. The project includes collaboration with renowned institutes in Czech Republic as well as with international partners and hence offers extensive networking opportunities. The successful applicant will be provided a solid training in HPLC/HRMS and advanced cultivation methods of phototrophic microorganisms. We also offer the student full mentoring support for professional and personal growth. The position includes 4-year fellowship and additional funding from the ongoing grant for the first 3 years with possibility of prolongation. The employment is intended to start between March 2022 to June 2022. The exact financial conditions can be discussed during the interview.

Applications consisting of motivation letter, structured CV and two academic reference contacts should be sent to via email to pareis@alga.cz until 15th of February 2022. The subject of the email should include "iron-student".

Links:
Institute: www.alga.cz/en
Lab: www.alga.cz/en/c-44-pavel-hrouzek-s-group.html