



PhD position on the Ecophysiology of Marine N₂-fixers

The Algatech Centre, Institute of Microbiology of the Czech Academy of Sciences, is an internationally recognized centre for basic and applied research on microalgae, cyanobacteria and photosynthetic bacteria in Třeboň, Czech Republic (www.alga.cz). Research in the Laboratory of Photosynthesis is focused on the molecular biology, ecophysiology and biophysics of photosynthesis. We are looking for a PhD student to join the Ondrej Prasil group of Algal Ecophysiology in recently funded projects on the physiology and ecology of marine N₂ fixing cyanobacteria.

Energy costs of C and N metabolisms in unicellular cyanobacteria

The aim of the PhD project is to experimentally quantify energy budget of unicellular diazotrophic cyanobacteria *Crocospaera* and *Cyanothece* under relevant ecological conditions. Conventionally, nitrogen (N₂) fixation is considered to be energetically costly since it requires free energy in the form of electrons and ATP to break triple bond of N₂. In line of this reasoning, the non-diazotrophs that utilize more reduced N sources like NO₃⁻ or NH₄⁺ outcompete diazotrophs. However, the detailed calculations show, that when compared with NO₃⁻ assimilation, the total free energy required for growth is similar in both cases.

We are looking for a motivated PhD student who will perform laboratory experiments of growing cells in bioreactors and sampling for suite of physiological, metabolomic and biochemical analyses. A BSc/MSc in Biological or Chemical Sciences with a focus on Marine Biology, Plant Physiology, Microbiology, Biophysics or related fields, as well as a profound interest in algal physiology are required. Experience in chlorophyll fluorescence techniques, protein biochemistry, stable isotope incubations and/or working with phytoplankton cultures is preferred, but additional training will be provided. Funding is available for at least 3 years, subject to satisfactory progress after initial period. Start date at the earliest convenience.

For questions on this position, please contact Prof. Ondřej Prášil (prasil@alga.cz, project leader). To apply, please send a motivation letter, CV and two reference letters or contact details for references to prasil@alga.cz. Review of applications will start on August 20th. Skype interviews will be conducted end of August / early September.

Algatech Centre currently employs > 80 researchers and students in all areas of algal research. The Laboratory of Photosynthesis is an international working group with active collaborations across Europe, the USA, Israel and Japan. We provide a friendly working environment, as well as assistance with the administrative aspects of moving to the Czech Republic and accommodation for the first months. Třeboň is a small town located in the south of the Czech Republic close to the Austrian border, in a rural setting about 2 h from Prague and 30 min from Ceske Budejovice, surrounded by UNESCO-protected lake-land area and forests offering plenty of hiking opportunities, as well as by historical towns renowned for their local breweries.