Advertising a PhD position at the Research Department for Limnology Mondsee (University of Innsbruck), Mondsee, Austria

Harmful algal blooms formed by cyanobacteria (cyanoHABs) not only deteriorate ecosystem services but cause significant economic losses because of managing and treating drinking water and food supplies. Among those toxins, most prominent are the microcystins (and related peptides), i.e. by inhibiting eukaryotic protein phosphatases 1 and 2A of higher organisms. Intracellular toxic peptides can be released into the surrounding environment either through cell lysis or through active transport out of the cell.

One possibility to investigate cyanotoxins on the individual cell level is the so-called bioorthogonal labeling. In vivo labeling of cyanotoxins/peptides is based on the discovery of unspecific key enzymes involved in the synthesis pathway of those compounds which also can use non-natural functional groups as precursors. The resulting modified molecule is subsequently labeled by a fluorophore through a so-called click chemistry reaction. We will perform cyanotoxin/peptide labeling and high resolution imaging to localize, quantify and reveal inter/intracellular peptide storage and release using various isolates varying substantially in intra- and extracellular toxic peptide content (0-60% of the total content).

The tasks of this position will include (i) the integration of the data on cyanotoxin/peptide localization, and labeling of metabolites, (ii) experiments on strain-specific variation and stress-induced variation. The PhD candidate will be responsible for collecting the data on peptide localization using high resolution microscopy and further analysis using advanced imaging software, as well as to analyze the strain-specific and stress induced variation under controlled laboratory conditions.

The position will be financed for 3 years (30 working hours per week, 75 percent appointment) according to the collective labour agreement (Kollektivvertrag) of the Austrian Universities (2148.40 Euro monthly salary, 14x per year). Proposed starting date is 1 October 2019. We are looking for a person holding a Master degree in Biochemistry or Biology and with experience in microbiology of cyanobacteria.

Parts of the working activities (e.g. image analysis) will be performed with the national cooperation partner in Innsbruck. The registration of the PhD thesis in Biology at the University of Innsbruck and the administration within the new doctoral programme “Alpine Biology and Global Change” will be expected.

Further Information: Assoc. Prof. Dr. Rainer Kurmayer
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For application please send a motivation letter together with a CV (in English) until 15 September 2019.