



## University of South Bohemia in České Budějovice

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### Daria Tashyreva PhD thesis “Production of dormant stages and stress resistance of polar cyanobacteria” supervisor evaluation

English written thesis contains Introduction, Aims and Tasks, Summary and Conclusion followed by four original papers which were accepted for publication in international journals with high impact factor. Only opening part (Introduction, Aims and Tasks, Summary and Conclusion) was not prepared directly for publication. However, this comprehensive part is bringing summarisation and overview of recent knowledge about stress resistance and dormancy of filamentous cyanobacteria (*Oscillatoriales*). Even theoretical part shows high quality and scientific erudition of PhD candidate. This part could be modified and published as a review.

Following four papers were or are going to be published in very good journals with high impact factor. Last paper was accepted for publication in Microbial Ecology.

I still remember when Daria came to Třeboň in October 2009. I picked her up in Třeboň train station where she was sitting with her luggage. She just finished her Master study in microbiology at Kiev University. She did not have an experience in phycology and in polar ecology. She truly started from the beginning, including learning how to live in a different culture using a different language. I offered her an interesting but difficult topic in cyanobacterial ecophysiology, ecophysiology of dormancy and stress resistance of polar cyanobacteria. This area of research is little known. Daria participated in several Arctic expeditions of our University. Thanks to her diligence and reliability she quickly reached high scientific standard. Step by step we have developed methods how to study cyanobacteria behaviour during summer and later during winter time. It was completely new subject in polar cyanobacterial ecology to discover how filamentous cyanobacteria prepare themselves to

survive winter period in completely frozen and desiccated environment. Finally, from the field experiences we could develop experimental system where we could modify environmental conditions in the laboratory which imitate the conditions of the end of summer and during winter. I was also very happy that Daria could share experiences with Martina Pichrtová, who has been working with us in similar topic in eukaryotic microalgae *Zygnema*. Martina obtained the price "Česká hlava" for her study. Similarly as Martina Pichrtová. Daria's research reach very high quality and her PhD thesis is unique in cyanobacteria polar ecophysiology.

It is my kind privilege to propose that Daria Tashyreva should obtain the title doctor of philosophy in biological sciences (Ph.D.). I evaluate her PhD thesis as excellent under qualification of the University of South Bohemia in České Budějovice.

In České Budějovice, January 19, 2016

Associate Professor Ing. Josef Elster, Ph.D.  
Supervisor

A handwritten signature in black ink, appearing to read "Josef Elster". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.