



## University of South Bohemia in České Budějovice

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### **Ekaterina Pushkareva PhD thesis "Ecology and diversity of microbial phototrophs in biological soil crust of Polar Regions" supervisor evaluation**

English written thesis contains Introduction, Objectives of the thesis, Overview of the papers, Results and discussions, Conclusion and future perspectives, References and Original papers (six original papers, four already published in international journals and two in review process). Only opening part (Introduction, Objectives of the thesis, Overview of the papers, Results and discussions, Conclusion and future perspectives) was not prepared directly for publication. However, this comprehensive part is bringing summarisation and overview of recent knowledge about ecology and diversity of phototrophic microorganisms in polar soil crust ecosystem. Even opening part shows high quality and scientific erudition of PhD candidate.

Following four papers were already published. Last two papers "Marked primary succession of cyanobacterial communities following glacier retreat in the High Arctic" and „Cyanobacteria inhabiting soil crusts of a polar desert: Sør Rondane Mountains, Antarctica" are in process of correction after reviewers comments.

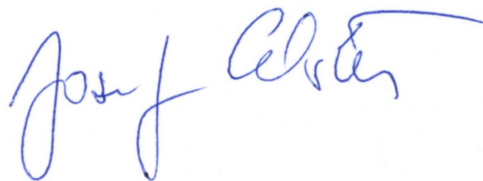
I still remember when Katya came to České Budějovice. She did not have an experience in phycology and in polar ecology. She truly started from the beginning, including learning how to live in a different culture using a different language. I offered her an interesting but difficult topic in ecology and diversity of soil crust ecosystem in polar regions. This area of research is little known. Katya participated in several Arctic expeditions of our University. Thanks to her diligence and reliability she quickly reached high scientific standard. She visited several times laboratory of Professor Annick Wilmotte in Liege (Belgium) where she has learned molecular methods of cyanobacteria diversity. With our help she also measured ecophysiological performances (photosynthetic rate and nitrogen

fixation) of biological soil crust in different successional stages. Katya has learned wide spectrum of methods which help her to continue in her future research of soil ecosystem.

It is my kind privilege to propose that Ekaterina Pushkareva 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, October 25, 2017

Josef Elster, Ph.D.  
Associate Professor  
Supervisor

A handwritten signature in blue ink, appearing to read 'Josef Elster', with a stylized, flowing script.