



Přírodovědecká  
fakulta  
Faculty  
of Science

Jihočeská univerzita  
v Českých Budějovicích  
University of South Bohemia  
in České Budějovice

## SUPERVISOR'S STATEMENT ON BACHELOR/DIPLOMA\* THESIS

**Name of the student:** Lara Marie Höscheler

**Study program:** Biological chemistry

**Department/Institute:**

**Thesis title:** Microbial community composition of Arctic cryoconite holes

**Supervisor:** Marie Šabacká

**Supervisor's affiliation:** Faculty of Science, University of South Bohemia

|                                                                                                                                                | Point scale <sup>1</sup> | Points                |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------|
| <b>(1) FORMAL REQUIREMENTS</b>                                                                                                                 |                          |                       |
| Formal and graphical quality of the thesis                                                                                                     | 0-3                      | 3                     |
| Ability to work with literature                                                                                                                | 0-3                      | 3                     |
| Language and stylistics                                                                                                                        | 0-3                      | 3                     |
| Formal requirements – points in total                                                                                                          |                          | 9                     |
| <b>(2) PRACTICAL REQUIREMENTS</b>                                                                                                              |                          |                       |
| Fulfillment of the aims                                                                                                                        | 0-3                      | 2                     |
| Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions                               | 0-3                      | 3                     |
| Discussion quality – interpretation of results and their discussion with the literature                                                        | 0-3                      | 2                     |
| Experimental difficulty of the thesis, independence in experimental work                                                                       | 0-3                      | 2                     |
| Contribution of the thesis to the knowledge in the field and the possibility to publish the results (after eventual supplementary experiments) | 0-3                      | 1                     |
| Practical requirements – points in total                                                                                                       |                          | 10                    |
| <b>POINTS IN TOTAL (MAX/AWARDED)</b>                                                                                                           |                          |                       |
|                                                                                                                                                | <b>24</b>                | <b>19<sup>2</sup></b> |

\* Choose one

<sup>1</sup> Mark as: 0-unsatisfactory, 1-satisfactory, 2-average, 3-excellent.

<sup>2</sup> Enter the number of points awarded.

### **Comments of the supervisor on the student and the thesis:**

During my supervision of Lara, she consistently exhibited dedication to her work and ability to work and think independently. Her eagerness to acquire new skills, expand her knowledge on polar regions, and engage in laboratory tasks was commendable.

In the course of her thesis, Lara:

- Reviewed a substantial number of scientific papers, enhancing her understanding of polar regions, glaciers, and their microbiology.
- Acquired proficiency in handling glacier samples under sterile conditions, minimizing contamination risks.
- Effectively isolated DNA from these tricky samples
- Familiarized herself with techniques such as PCR, gel electrophoresis, and DNA concentration measurement
- Conducted analysis of sequencing results, aligning them with existing literature to identify microbial community patterns.
- Exhibited capability in data interpretation, understanding its significance and implications.

The main objective of Lara's thesis was to serve as a learning experience about microbial ecology and polar regions. I accept that the thesis doesn't match the standards of scientific journal publication. Its limitations largely emanate from constrained timelines, partly due to unforeseen challenges on my end, including a difficult pregnancy. Given that Lara's sequencing results were delayed, I provided her with an alternative dataset, which was less than ideal. Despite these challenges, Lara displayed adaptability and was able to successfully analyse the results.

While the thesis might lean more towards being descriptive rather than explanatory, it was primarily designed to enrich her understanding of the research field, enabling her to utilize these methodologies in future work. Lara dedicated considerable time to studying relevant papers and furthering her understanding of polar regions. The tight timeframe, combined with the complexity of mastering so many different techniques (DNA extraction, PCR, gel analysis, sequence analysis, statistical analysis), especially when dealing with unpredictable glacier samples, may have been an ambitious expectation on my part.

I acknowledge the oversight in gauging the time required and the complexity involved. In hindsight, I understand that the initial goals might have been a tad ambitious. Lara, however, commendably managed to work with the available dataset, putting her best foot forward.

One of the thesis's key strengths lies in how Lara juxtaposed her findings with existing literature. This displayed not just her comprehensive understanding of the subject but also her ability to contextualize and interpret her results.

In closing, Lara did a good job, she is a hard-working and dedicated student and I am confident that she has gained the knowledge and expertise to do proper scientific research in the future. I've gleaned invaluable insights from this experience, and in the future, I aim to ensure that students undertake projects that are both feasible and more meaningful within the given timeframe.

**Conclusion:**

In conclusion, I  
r e c o m m e n d  
the thesis for the defense.

In        date        18 Sep 2023

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signature