

## PUBLIC LECTURE EVALUATION

### Masaryk University

<b>Faculty</b>	Faculty of Science
<b>Procedure field</b>	Physical Chemistry
<b>Applicant</b>	Doc. RNDr. Dominik Heger, Ph.D.
<b>Lecture date</b>	October 2, 2025
<b>Lecture topic</b>	Spectroscopic and Microscopic Views on Solutions: the Frozen Ones and the Others
<b>Persons present</b> (number)	70
<b>Designated evaluators</b> (board members)	Prof. Dr. Ido Braslavsky (online) Prof. RNDr. Jiří Kolafa, Ph.D. (online) Prof. RNDr. Libor Kvítek, Ph.D. (online) Prof. RNDr. Jan Hrbáč, Ph.D. (on-site)

The public lecture, as part of the professorship procedure of Doc. RNDr. Dominik Heger, Ph.D., entitled "Spectroscopic and Microscopic Views on Solutions: the Frozen Ones and the Others", took place on October 2, 2025.

The introductory part of Dr. Heger's lecture was devoted to a broad overview of the importance of freezing processes in nature and human technology. He presented the current state of the art in ice structures and their physicochemical properties. The main part of the lecture addressed various topics investigated in the applicant's group, specifically protein denaturation during freezing, freezing- and sublimation-induced acidification and aggregation in geophysical, environmental, and pharmaceutical contexts, as well as atmospheric phenomena such as snow-induced bromine explosions in the Arctic and the generation of sea salt aerosols. The methodological approaches were briefly described and were based predominantly on UV/VIS spectroscopic techniques and scanning electron microscopy. Each topic was accompanied by a list of corresponding references to papers published by the applicant's team.

The lecture lasted 55 minutes plus discussion, was well designed, carefully prepared, and illustrated with appropriate figures, graphs and diagrams. In the ensuing lively discussion, Dr. Heger demonstrated a strong command of the field and answered all questions posed by both the audience and committee members.

### Conclusion

The committee found the candidate's lecture to be of high professional quality, clearly structured, and comprehensibly presented. The candidate demonstrated excellent knowledge of the field as well as strong teaching skills, particularly the ability to explain concepts logically. He responded appropriately to questions from the audience. The lecture demonstrated sufficient scholarly expertise and pedagogical competence, as expected of applicants participating in the Masaryk University professorship appointment procedure in the field of Physical Chemistry.

The lecture took place in a hybrid form on October 2, 2025, 14:00. The above-mentioned members of the board attended the lecture and provided its evaluation. All designated evaluators are familiar with the text of the evaluation and agree with it.

Date: October 2, 2025

Prof. RNDr. Jan Hrbáč, Ph.D.