

Masaryk University

Faculty

Faculty of Science

Procedure field

Environmental Health Sciences

Applicant

Lisa Emily Melymuk, Ph.D.

Applicant's home unit, institution

Faculty of Science, Masaryk University

Habilitation thesis

Tracking the chemical signal of modernity: linking policy, behaviour and environment to understand human exposure to chemical pollution

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Evaluation of the applicant's scholarly/artistic qualifications

Lisa Melymuk received PhD degree in 2012 from University of Toronto, Canada, Department of Chemical Engineering and Applied Chemistry, for her dissertation entitled Semi-volatile Organic Contaminants in the Urban Atmosphere: Spatial and Seasonal Distributions and Implications for Contaminant Transport. After graduation, Dr. Melymuk moved as a postdoctoral researcher to RECETOX at Faculty of Science, MU, Brno, CZ, and was promoted to assistant professor position in 2018. Her additional work experiences include research at the Environment Canada, Freshwater Quality Monitoring Division (2010-2011) and four research stays during 2013-2018 e.g. at NILU (Norwegian Institute for Air Research Research) or at University of Toronto, Canada.

Research of Dr. Melymuk explores levels, environmental fate and health risks of broad group of semi-volatile organic chemicals (SVOCs), that include also perfluorinated alkyl compounds, diverse flame retardants etc. Her research contributed to understanding the levels, distribution and environmental processes of organic pollutants in different environments and matrices. Dr. Melymuk published more than 80 original papers (Web of Science, 70 papers in journals ranked in the first decile D1 or the first quartile Q1 according to the impact factor) that were cited more than 2700-times by other researchers (WoS database).

Dr. Melymuk as a principal investigator successfully secured two competitive grants from GAČR (Czech National Science Foundation, 2019-2021, 2022-2024), served as a WP leader in international H2020 and HEU projects INTERWASTE and INQUIRE. She has a solid network of international collaborators, also through Dr. Melymuk's activities in the European Partnerships and networks such as HBM4EU, PARC, NORMAN. Dr. Melymuk serves in editorial boards of three journals including high quality ES&T Letters published by the American Chemical Society. In 2023, Lisa Melymuk received MUNI Scientist award acknowledging her leadership in the comprehensive published study "Exposure to flame retardants in European children — Results from the HBM4EU aligned studies".

Conclusion: The applicant's scholarly/artistic capabilities **meet** the requirements expected of applicants participating in a habilitation appointment procedure in the field of Environmental Health Sciences.

Evaluation of the applicant's pedagogical experience

Dr. Lisa Melymuk has been active in teaching. Currently, she has full responsibility for two full semester courses. Environmental Pollutants (E1220) is an obligatory course for BSc/MSc students in Environmental Health Sciences programme with enrolment of 15-20 students annually. Dr. Melymuk is leading the course since 2019. Environmental Chemistry (E0313) is an introductory overview lecture offered to all levels of students, including incoming visiting Erasmus+ students. It is lectured by Dr. Melymuk in English since 2015 with annual attendance of 5-10 students. In addition, Dr. Melymuk has also been involved as a lecturer in semestral course on Methods of pollutant analyses and she lead laboratory exercises in Basics in environmental processes research.

Dr. Melymuk has a solid track in supervising undergraduate students including 2 successfully defended bachelor theses and 7 successfully defended MSc theses. Dr. Melymuk also supervised dissertations of two PhD graduates (2018 and 2020), and she is currently supervising 3 other doctoral candidates who are progressing very well in their academic track.

Conclusion: The applicant's pedagogical capabilities **meet** the requirements expected of applicants participating in a habilitation appointment procedure in the field of Environmental Health Sciences.

Habilitation thesis evaluation

The submitted habilitation thesis is as a multi-disciplinary commentary of selected 20 original articles authored by Dr. Melymuk. The research covers complex issues related to sample collection, laboratory analysis as well as environmental model development and application. The focus is on the exposures to chemicals from consumer products, namely through the indoor environments. The thesis discusses results from field campaigns with measurements and modelling and presents relevant policy and regulatory information.

The members of the habilitation board appreciated the quality of the thesis in agreement with the written reviews received by all three international opponents, i.e. Associate professor Peter Haglund from Umea University, Sweden, Dr. Linda Schenk from Karolinska Institute, Sweden, and Professor Rainer Lohmann from University of Rhode Island, USA.

Conclusion: The applicant's habilitation thesis **meets** the requirements expected of habilitation theses in the field of Environmental Health Sciences.

Secret vote results

Voting took place: electronically

Number of board members		5
Number of votes cast		5
of which	in favour	5
	against	0

Board decision

Based on the outcome of the secret vote and following an evaluation of the applicant's scholarly or artistic qualifications, pedagogical experience and habilitation thesis, the board hereby submits a proposal to the Scientific Board of the Faculty of Science of Masaryk University to **appoint the applicant associate professor** of Environmental Health Sciences.

In Brno on 06.05.2025

prof. RNDr. Luděk Bláha, Ph.D.

