

Masaryk University	
Faculty	Faculty of Medicine
Procedure field	Medical Chemistry and Biochemistry
Applicant	Mgr. Ondřej Peš, Ph.D.
Applicant's home unit, institution	Faculty of Medicine, Masaryk University
Habilitation thesis	Mass spectrometry in bioanalytical and clinical applications
Board members	
Chair	prof. RNDr. Jitka Ulrichová, CSc. <i>Ústav lékařské chemie a biochemie LF UP Olomouc</i>
Members	doc. RNDr. David Friedecký, Ph.D. <i>Oddělení klinické biochemie, FN Olomouc</i> doc. MUDr. Milan Dastych, CSc., MBA <i>Faculty of Medicine, Masaryk University</i> prof. MUDr. Martina Řezáčová, Ph.D. <i>Ústav lékařské biochemie, LF UK, Hradec Králové</i> Prof. Oscar Nunez Burcio <i>Dep. Chemical Engineering and Analytical Chemistry, University of Barcelona, Spain</i>

Evaluation of the applicant's scholarly/artistic qualifications

Ondřej Peš graduated as M.Sc. in Analytical Chemistry at the Faculty of Science, Masaryk University with the diploma thesis "On –target enzymatic digestion PMF MALDI MS" in 2006. In 2010, after finishing his PhD thesis at the Department of Chemistry at the same institution (with a thesis titled "Multidetecation platform for microcolumn separations"), he began his career as an assistant at the Department of Biochemistry at the Faculty of Medicine, Masaryk University.

Currently, Mgr. Peš's work is focused on the application of modern analytical techniques in the field of clinical medicine, toxicology, and the analysis and biotransformation of plant secondary metabolites. He is well versed in the statistical evaluation and interpretation of results. He also continues to pursue his original work dealing with modern bioanalytical methods, e.g. HPLC, MC, etc. Regarding his work with naturally-derived products, he focuses mainly on the identification of alkaloids. Recently he has obtained interesting results concerning the detection of cortisol in hair, with potentially promising practical applications. Within his profession, Mgr. Peš works at the interface between analytical chemistry and its application in clinical biochemistry. The topics he works on are of current scientific relevance and interest with respect to the number of citations of current articles. Mgr. Peš participated in three research projects for the Grant Agency of the Czech Republic as a team member, acting as the specialist analytical methodologist and, furthermore, for 2 projects on the topic of mass spectrometry, with support received from the Faculty of Medicine, Masaryk University.

At the date of application, Mgr. Peš is the author or co-author of 20 scientific articles (18 original papers, 2 reviews), 19 of them in journals with impact factor. In 7 of them he is the first or corresponding author. 9 articles from a total of 20 are published in journals belonging to the first or second quartile (Q1+ Q2) of the given field (according to WOS). He has been an active participant in national and international scientific conferences focussed on the practical application of analytical methods. The response to the scientific work of Mgr. Peš includes 154 citations (without auto-citations) listed in the WOS database. According to WOS, Mgr. Peš's total H-index is 9.

Conclusion: The applicant's scholarly/artistic capabilities **meet** the requirements expected of applicants participating in a habilitation appointment procedure in the field of Medical Chemistry and Biochemistry.

Evaluation of the applicant's pedagogical experience

Since 2010, Mgr. Peš has taught at the Department of Biochemistry at the Faculty of Medicine, Masaryk University. He runs seminars and practical courses in Biochemistry for students of General Medicine and Dentistry, as well as in several other Bachelor's courses and, since 2013, these have also been taught in the English programme. He has supervised 5 Bachelor's and Master's theses. At present, he is the supervisor or supervisor-specialist of 2 PhD students. He is a member of the PhD board for Medical Chemistry and Biochemistry. He was responsible for five projects for the University Development Fund regarding university pedagogical topics (an interactive form of practical training, self-testing, a new textbook for Bc studies). He is the author of two reviewed teaching texts and his pedagogical activity has been evaluated positively by students (this evaluation was made in the period 2015-2021). It can be stated that the pedagogical activity of Mgr. Peš in the field of Medical Chemistry and Biochemistry at the Faculty of Medicine meets the requirements for the habilitation procedure.

Conclusion: The applicant's pedagogical capabilities **meet** the requirements expected of applicants participating in a habilitation appointment procedure in the field of Medical Chemistry and Biochemistry.

Habilitation thesis evaluation

The habilitation thesis is composed of 9 original papers and 2 reviews published between 2008-2020 by Mgr. Peš that deal with the development and application of spectrometry in bioanalytical, medicinal and clinical chemistry. All the papers are discussed satisfactorily and the contribution of Mgr. Peš is described. The thesis is divided into three parts, based on the problems studied: Mass spectrometry hyphenated via an offline interface, Mass spectrometry as a tool in identification and characterization, Mass spectrometry as a sensitive and specific detector.

Demonstrated in all three parts are the possible applications of mass spectrometry in defined topics based on the author's own papers and accompanied by the author's commentary. The thesis is well prepared and clearly structured, based on previously published and discussed results, written in very good English and documented with recent literature.

The habilitation thesis has been positively assessed by all three reviewers and all are in agreement about the quality of the results obtained, which deepen knowledge in the field of bioanalytics, especially in new instrumentation used in practical analyses of biologically interesting compounds.

Finally, all three reviewers declare that the habilitation thesis of Mgr. Peš fulfils the criteria for a habilitation thesis for Medical Chemistry and Biochemistry.

Conclusion: The applicant's habilitation thesis **meets** the requirements expected of habilitation theses in the field of Medical Chemistry and Biochemistry.

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 Medicine of Masaryk University to **appoint the applicant associate professor** of Medical Chemistry and Biochemistry.

In Brno on 19.10.2022

prof. RNDr. Jitka Ulrichová, CSc.

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