

Masaryk University	
Faculty	Faculty of Medicine
Procedure field	Anatomy, Histology and Embryology
Applicant	MUDr. Marek Joukal, Ph.D.
Applicant's home unit, institution	Faculty of Medicine, Masaryk University
Habilitation thesis	Nerve injury induced neuropathic pain and spread of inflammatory response to remote structures of the nervous system
<u>Board members</u>	
Chair	prof. RNDr. Ondřej Slabý, Ph.D. <i>Faculty of Medicine, Masaryk University</i>
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Evaluation of the applicant's scholarly/artistic qualifications

MUDr. Marek Joukal, Ph.D., is the author or co-author of 26 articles published in impacted journals (cumulative IF 65,556) and 3 times in peer-reviewed journals. He is listed 10 times as the first or corresponding author (4 times in Q1 journals). He is the author of highly cited chapter about Anatomy of the visual pathway as a part of monography Homonymous Visual Field Defects. His excellent research carrier is supported by 135 citations in WoS and H-index 7. Dr. Joukal is applicant of 1 international MOBILITY grant supported by Czech Ministry of Education and German DAAD, co-applicant of one grant supported by Czech Science Foundation and two times a member of the research team of grants supported by Czech Health Research Council. In 2017, Dr. Joukal got very prestigious Proschek-Fulbright Scholarship and spent 6 months in the University of Minnesota in Professor Honda's lab focusing on ex vivo skin-nerve model for testing potential therapeutics for neuropathic pain. Apart from the research in the field of neuroscience, dr. Joukal does his research also in the field of the forensic medicine and pathology as well as anatomy. Dr. Joukal was awarded by Czech Anatomical Society "The best publication of junior researcher (under 35 years) in year 2019".

From aforementioned, it is clear that Dr. Joukal is very reputable researcher with great impact on science in the field of Neuroscience, Forensic Science and Anatomy.

Conclusion: The applicant's scholarly/artistic capabilities **meet** the requirements expected of applicants participating in a habilitation appointment procedure in the field of Anatomy, Histology and Embryology.

Evaluation of the applicant's pedagogical experience

MUDr. Marek Joukal, Ph.D., started his teaching activity in 2009 as a student-assistant at the Department of Anatomy, Faculty of Medicine, Masaryk University. After his graduation (M.D.) in 2013 he continued as the assistant, and after completing his Ph.D. (2016) as the assistant professor. Since 2019 he is a guarantor of the subject Anatomy for General Medicine, Dentistry and Bachelor studies. He regularly teaches Anatomy lectures, seminars and dissection courses for General Medicine students and Dentistry student both in Czech and English. Moreover, he guarantees and teaches subject Anatomy of the children. His lectures focused on clinical anatomy in the subject Clinical Introduction are very valuable for students in higher years helping them to be oriented in applied anatomy. Dr. Joukal is principal investigator on the international education grant "Online Education of the Limb Anatomy (OELA)" supported by EDUC Virtual Mobility WP5. Dr. Joukal's excellent teaching skills led to innovation of the Anatomy curriculum and was awarded by the Rector of the Masaryk University (Award in tuition innovation) in 2021. In addition, his teaching activity is supported by 4 comprehensive textbooks (Anatomy for physiotherapists I and II, Anatomy of the children, Bases of preparation techniques). He is supervisor of two doctoral students.

Conclusion: The applicant's pedagogical capabilities **meet** the requirements expected of applicants participating in a habilitation appointment procedure in the field of Anatomy, Histology and Embryology.

Habilitation thesis evaluation

MUDr. Marek Joukal, Ph.D., selected as the topic of his habilitation thesis „Nerve injury induced neuropathic pain and spread of inflammatory response to remote structures of the nervous system“. The thesis is written as a collection of 8 articles published in IF journals and is written in a very good English. The introduction of the thesis contains general overview of the state of the art in the field of nociception. Dr. Joukal describes reaction of all parts of the central nervous system on nerve injury, demonstrates neuroinflammatory reaction in the medulla oblongata, pons, mesencephalon and hindbrain as well as reaction of the cortical centers involved in pain perception. He also summarizes role of the brain barriers (Blood-brain barrier, Blood-CSF barrier and DRG-CSF barrier) in spread of neuroinflammation. The general overview is followed by

summary of applicant's findings in the field of the CNS neuroinflammatory response on nerve injury and role of the barriers in spread of neuroinflammation. All 8 original articles listed in the thesis are introduced by commentary and summary of their major findings. The committee would like to emphasize that all articles listed in the theses were published in prestigious journals. All three reviewers highlighted in their reports a very high quality of the thesis and its impact on the field of nociception.

Conclusion: The applicant's habilitation thesis **meet** the requirements expected of habilitation theses in the field of Anatomy, Histology and Embryology.

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 Faculty of Medicine of Masaryk University to **appoint the applicant associate professor** of Anatomy, Histology and Embryology.

In Brno on 27.04.2021

prof. RNDr. Ondřej Slabý, Ph.D.

