



Stanovisko habilitační komise k návrhu na jmenování docentem

Masarykova univerzita

Fakulta

Přírodovědecká fakulta

Obor řízení

Ekotoxikologie

Uchazeč

Pavel Babica

Pracoviště uchazeče

Přírodovědecká fakulta, MU

Habilitační práce

Gap junctional intercellular communication: In vitro assessment of hazardous and beneficial effects of chemicals

Složení komise

Předseda

prof. RNDr. Jana Klánová, Ph.D.

Přírodovědecká fakulta, MU

Členové

prof. RNDr. Kateřina Malachová, CSc.

Ostravská Univerzita

prof. RNDr. Marie Stiborová, DrSc.

PřF UK Praha

prof. RNDr. Zdeněk Dvořák, DrSc., PhD.

UP Olomouc

Prof. Robert Barouki

Université Paris Descartes

Hodnocení vědecké / umělecké kvalifikace uchazeče

RNDr. Pavel Babica, Ph.D. born 20.9.1978, in Kroměříž, Czech Republic, received his PhD in 2006 in Environmental Chemistry (Faculty of Science, Masaryk University, Brno, Czech Republic). His professional experiences include position of the Research Scientist at the Institute of Botany, Department of Experimental Phycology and Ecotoxicology, The Czech Academy of Sciences, Brno, CZ (since 2003), Visiting Research Associate at Michigan State University, Department of Pediatrics and Human Development & Food Safety and Toxicology Center, East Lansing, MI, USA (2006-2010, 43 months), and Researcher (since 2012) at Masaryk University, Faculty of Science, Research Centre for Toxic Compounds in the Environment, Brno, Czech Republic.

Research of Dr. Pavel Babica addresses analytical and mechanistic aspects of natural toxins (cyanotoxins) and organic toxic compounds. It is specifically focused on development and application of advanced in vitro toxicological methods, and their application in the studies of biological, pharmacological and (eco)toxicological properties of chemicals and their mixtures.

Dr. Babica is author or co-author of total 41 ISI WOS publications, 13 other peer-reviewed journal papers, 3 book chapters and 37 other scholarly publications not listed in international databases. He is also (co-)author of one national patent, more than 170 conference abstracts including 22 oral conference presentations. In 2016-2017, dr. Babica served as an editor of a special issue of the international journal AIOL focusing on advances in cyanobacterial toxin research. His research received more than 890 citations (excluding self-citations) according to ISI WOS and several awards during 2002-2007 (rector's and dean's awards for best doctoral research and best conference presentations). Further research activities of Dr. Babica include numerous national and international collaborations documented by joint research publications (including e.g. Michigan State University, University of Colorado Denver, University of Michigan, INP Greifswald and others), organization and chairing of a session at the international conference (Cyanobacteria 2006, Brno, CZ), organizing of seminars or workshops (in total 8 events between 2005-2015). Dr. Babica was leading as a principal investigator or co-PI - five research grants (GAČR, MSMT Kontakt II, Tomas Bata Foundation, EU MSCA SoMoPro, FRVŠ) and had/has roles in 6 other Research Projects as a member of the Research team (including e.g. H2020 MSCA ITN NaToxAq, NIEHS R02, GAČR, GAAV). He also serves as a reviewer (35 reviews since 2004) for international peer-reviewed journals (total 22 journals) including e.g. Aquatic Ecology, Chem Res Toxicol, Scientific Reports, Water Research, Toxicology in vitro, J Chromatography A, Chemosphere and others).

Conclusion: The applicant's scholarly capabilities *meet* the requirements expected of applicants participating in a habilitation procedure in the field of Ecotoxicology.

Závěr: Vědecká / umělecká kvalifikace uchazeče **odpovídá** požadavkům standardně kladeným na uchazeče v rámci habilitačních řízení v oboru Ekotoxikologie.

Hodnocení pedagogické způsobilosti uchazeče

Dr. Pavel Babica's pedagogical qualification include full-semester teaching of lectures and exercises, supervising of BSc, MSc and PhD students as well lecturing at seminars, special courses or summer schools.

Dr. Babica has introduced and serves as a guarantor of the new course for the students of Ecotoxicology and Environmental Chemistry programmes at Faculty of Science: Bi5596 Advanced Methods in Ecotoxicology? which is a complex course including theoretical classes and set of practical laboratory exercises. He is also author of the electronic teaching aids for students for Bi5596 (available via IS.MUNI.CZ). The course is offered to students annually, and its content is regularly updated. He also contributes to other courses and seminars at MU namely Bi0005, ED101, Bi7002.

Dr. Babica also demonstrated his good teaching skills during the public lecture on "Gap junctions - an evolutionary ancient cell phone being rung by modern toxicology and pharmacology" presented on 20th February 2018 (detailed review of the public lecture is attached). The public lecture could be evaluated by all members of the committee as it was broadcasted via YouTube channel. The candidate used a balanced approach combining theoretical introduction with own research results. He also presented outlooks and visions for his future research and pedagogical activities. Lecture was supported by PowerPoint presentation, which included numerous illustrative examples and pictures well documenting both methods and research results. Formatting of the slides as well as the oral presentation were presented in a clear way, which was fully understandable not only by the experts in the field but all broader audience. During the follow up discussion after the lecture, Dr. Babica responded to all comments and questions raised to full satisfaction of the discussing colleagues.

Dr. Babica is further an author of three popular science texts (in Czech journals Živa and Quark) and seven educational activities for undergraduate or secondary school students (lectures, open-doors days, excursions).

Dr. Babica supervised 8 BSc students (successfully defended theses), MSc students - 8 successfully defended theses plus 2 theses currently in progress. He is currently supervising 7 PhD students as the main supervisor and 3 other PhD students as co-supervisor. He was exceptionally successful in attracting and supervising talented students and encouraging incoming and outgoing international mobilities of the students including e.g. Jan Raška (graduate from Department of Biology, Faculty of Medicine, Masaryk University; PhD student supervised by P.B. since 2015, awarded with the Brno Ph.D. Talent Project) Barbara Kubíčková, (intern Erasmus + trainee / master's degree student from Universität Greifswald, Germany, since 2017 a Ph.D. student at RECETOX), Renata Škovroňová (after completing B.Sc. studies under supervision of P.B., she worked on her diploma thesis at Departments of Pharmacology and Toxicology, Radboud University Medical Center, The Netherlands. Five other P.Babica's students (Jaša, Sadílek, Brózman, Klímová, Musilová) received special awards during 2013-2017 including best diploma theses or best conference presentations. He also served as a reviewer of two PhD theses (University of South Bohemia, Masaryk University), two MSc. theses and five BSc. theses (Faculty of Science, MU).

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

Závěr: Pedagogická způsobilost uchazeče **odpovídá** požadavkům standardně kladeným na uchazeče v rámci habilitačních řízení v oboru Ekotoxikologie.

Hodnocení habilitační práce uchazeče

The submitted dissertation focuses on intercellular communication mediated by gap junctions as a marker for the detection of toxicity in vitro, which is a timely and relevant topic in environmental toxicology. The text includes a comprehensive theoretical introduction highlighting all concepts underpinning the research project, which is then in detail documented by a commented summary of 15 original research papers of the applicant. Throughout the individual studies, the candidate has used appropriate methodologies and techniques, and has set up his experiments in such a way to unambiguously answer the central research question(s), including sound statistical design. The thesis documents thorough in depth knowledge of the applicant in both broader field of experimental (in vitro) toxicology as well in broader context of the ecotoxicology field. Both the quality of the text and formatting of the the thesis clearly document good pedagogical skills of the candidate, i.e. to present the knowledge to readers in an exact but concise and simple way.

All three esteemed nominated reviewers (Prof. Mathieu Vinken - Vrije Universiteit Brussels; Prof. Jan Vondráček - Institute of Biophysics, Czech Academy of Sciences, and Assoc. Prof. Karel Šmejkal - Faculty of pharmacy, Veterinary and Pharmaceutical University, Brno) provided positive reviews of the habilitation, which were in agreement with the position of the habilitation board. The candidate provided responses to questions raised in the reviews in the written form, which was communicated and fully accepted by all the three reviewers.

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

Závěr: Úroveň habilitační práce uchazeče **odpovídá** požadavkům standardně kladeným na habilitační práce v oboru Ekotoxikologie.



Stanovisko habilitační komise k návrhu na jmenování docentem

Výsledek tajného hlasování komise

Hlasování se uskutečnilo: prezenčně
 elektronicky

Počet členů komise		5
Počet odevzdaných hlasů		5
z toho	kladných	5
	záporných	0

Návrh komise

Na základě výsledku tajného hlasování následujícího po zhodnocení vědecké / umělecké kvalifikace, pedagogické způsobilosti a úrovně habilitační práce uchazeče předkládá komise Vědecké radě Přírodovědecké fakulty Masarykovy univerzity návrh

jmenovat uchazeče docentem v oboru Ekotoxikologie na zastavení řízení.

V Brně dne 24.3.2018

jméno a příjmení vč, titulů

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podpis předsedy komise