Habilitation Board Decision on the Nomination for Appointment to Associate Professor

Masaryk University	
Faculty	Faculty of Informatics
Procedure field	Informatics
Applicant	RNDr. Radek Ošlejšek, Ph.D.
Applicant's home unit, institution	Faculty of Informatics, Masaryk University
Habilitation thesis	Data-Driven Exploratory Interactions and Visual Analysis
Board members	
Chair	prof. RNDr. Václav Matyáš, M.Sc., Ph.D. *Faculty of Informatics, Masaryk University*
Members	Assoc. Prof. Eduard Gröller *TU Wien* prof. Ing. Adam Herout, Ph.D. *FIT VUT v Brně* prof. RNDr. Michal Kozubek, Ph.D. *Faculty of Informatics, Masaryk University* prof. Ing. Pavel Slavík, CSc. *FEL ČVUT v Praze*

Evaluation of the applicant's scholarly/artistic qualifications

The candidate has been active in research for quite some time – 14 years. During this period, he was active in various research areas (computer graphics, web technologies, assistive technologies, dialog systems, visualization, visual analytics, cybersecurity, etc.). As a result of his research he was a co-author of 25 papers, out of which 6 are high-quality publications (CORE A/B), yet only one of them as the main author. The reached numbers are only slightly higher than the FI MU recommended minimal numbers, i.e., 25/6/41 versus 15/5/40 (number of papers in international databases, high-quality papers and citations). Though the candidate is partially publishing at international events, journal publications are missing. The citation count (e.g., according to Google Scholar) is not impressive, yet with a notable increase in 2018. The strongest publications of the candidate are in the cybersecurity area.

Strong points of the research is the Ministry of Interior Award (2016, KYPO project). The candidate has been continuously involved in research projects, the KYPO project being the scientific highlight. The candidate participated in several research grants, only once as PI (in the case of his post-doc GACR grant).

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

Evaluation of the applicant's pedagogical experience

The candidate has been giving various lectures on various topics at MU, some taught for quite some time and has got an outstanding teaching experience. He has taught a remarkable number of courses of various kind - this demonstrates his broad field of interest. He has supervised a remarkable number of Bachelor (61) and Master theses (87). He has been engaged in numerous educational projects. The candidate has given an invited lecture at the University of Bergen, yet the list of invited talks is rather short. The candidate's activities in creation of supportive materials for students are also very much appreciated.

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

Habilitation thesis evaluation

The thesis deals primarily with data modelling and exploratory interactions. The visual analysis is applied in a cybersecurity context. Two areas are combined, i.e., dialogue-based interaction with graphical data and visual interaction with cybersecurity data, which are rather loosely connected. In the dialogue-driven knowledge management, crowdsourcing for continuously building knowledge has been discussed. The KYPO cyber range is one of the core contributions of the thesis. It has been used in the Cyber Czech event already eight times. The habilitation thesis is based on 11 research papers, where the candidate is once first author, four times last author and never a single author.

Three external reviewers were appointed by the habilitation committee, and their major observations and conclusions are as follows.

Univ.-Prof. Dr.rer.nat. Tobias Schreck, M.Sc. (Graz University of Technology, Institute of Computer Graphics and Knowledge Visualisation, Graz, Austria) summarized his review: To summarize my report, Dr. Ošlejšek has made contributions in two important applied research areas in Informatics. The publications show that a range of challenges was analyzed, and suitable solutions were proposed, and evaluated to some

degree. A characteristic of the thesis is the central role of the domain user for understanding data. In that, the thesis contributes to several scientific areas, including visual computing, human-computer interaction, software architecture, and E-learning. I recommend accepting the presented habilitation thesis.

Prof. Dr.-Ing. Jörn Koblhammer (Fraunhofer Institute for Computer Graphics Research IGD & Technical University Darmstadt, Germany) makes the following observations:

- In summary, the applicant describes an interesting journey through two scientific areas and various application fields, moving towards cyber security and visual analytics. The habilitation thesis has been very well prepared. Fitting to the role of the applicant, he has advised and supervised almost 150 students along the way and worked in different research teams. Over the course of the last 13 years that are in the focus of this review and especially since he became involved in the area of cybersecurity, the applicant has published in increasingly higher-rated conferences. While the earlier publications reported mainly conceptual, these later publications show more extensive evaluations with the users of the developed techniques. Overall, I see the expectation of a habilitation thesis...

And he concludes his review: The habilitation thesis entitled "Data-Driven Exploratory Interactions and Visual Analysis" by Radek Ošlejšek fulfils requirements expected of a habilitation thesis in the field of Informatics.

Doc. Dr. Andrej Ferko (Comenius University Bratislava, Slovakia) makes the following observations:

- The work is done and written in a professional quality.

- There is no doubt concerning the originality of the contribution.

- The author has an excellent orientation in the field, he masters the recent methodology and original interdisciplinarity. The most valuable ideas I see in exploratory strategies for pictorial and security data. Namely, the interaction with image semantics using natural language may become useful/popular in long perspective, especially for visually impaired users. In security applications, KYPO, deriving the focused visualizations driven by carefully analyzed specific (educational) requirements for given target group.

And he concludes his review: the work ..., representing his contributions within the studied research field Computer Science, in my opinion fulfils all requirements for habilitation thesis at international level. Therefore, I recommend to the habilitation committee at Masaryk University Brno to accept the work, according to the respective law in Czech Republic, and to honor the author by the Docent degree.

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

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Secret vote results

Voting took place: electronically

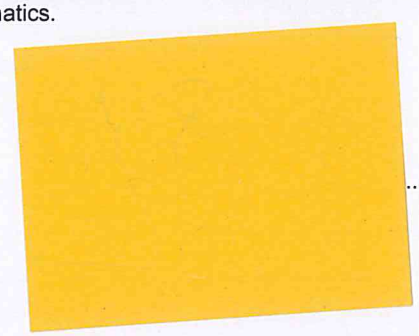
Number of board members		5
Number of votes cast		5
of which	in favour	5
	against	0

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 Informatics of Masaryk University to **appoint the applicant associate professor** of Informatics.

In Brno on 28.04.2019

prof. RNDr. Václav Matyáš, M.Sc., Ph.D. ....



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