Report concerning the inauguration of Dr. Miroslav Haviar

Miroslav Haviar finished his university studies in 1988, on the Faculty of Mathematics and Physics of Comenius University from Bratislava, and a few years later He already defended his PhD thesis from mathematics (1993) under the guidance of Professor T. Katrinák. His first papers dealt with particular pseudocomplemented lattices and with affine completeness of lattices and distributive lattice based algebras. Already his first publications are of a high quality. A remarkable result achieved by him in this period was a serious improvement of the result of H. Kaiser and N. Sauer on order-polynomially complete lattices. The method developed in this paper was partly used some few years latter to solve a long standing famous problem in lattice theory by showing that there are no infinite order-polynomially complete lattices.

The next period of his research activity was influenced by the joint work with Professor H. A. Priestly and Professor B.A. Davey during his visiting fellowship grant at Oxford University 1993-1994. He started a detailed and deep analysis of the open problems of duality theory. He obtained (together with his collaborators) two major research achievement in this field: Namely, two years later, he solved the so called Entailment Problem, and he proved that for the class of finite distributive lattices, endodualisability is equivalent to endoprimality which was the first result of this type in the literature of duality theory.

Another group of the research results of Dr. Miroslav Haviar is related to fruitful combining of certain algebraic methods of the theory of orthomodular lattices with Natural Duality Theory (1997-2000). His contribution in the developing of this theory remained important in the next period of his scientific career. Together with professors B.A. Davey and R. Willard he obtained a partial solution of the famous "Full vs. Strong Problem" in duality theory.

Recently, he has been working intensively together with the professors B.A. Davey, M.J. Guveia, H.A. Priestly and A.P.K. Craig on applications of duality theory for the study of canonical extensions of algebras- this study has a remarkable importance in algebraic logic. In the last decade he published several research papers related to this subject and to piggyback dualities and Bohr compactification of algebras. He also has been recently studying

together with Professor Miroslav Ploščica congruence-preserving functions and affine completeness of distributive lattices.

The candidate Miroslav Haviar has a reasonable number of publications: 68 scientific publications containing 54 research papers, 2 books, 2 theses and some publications with an educational or historical subject, and beside that 24 seminar talks. At this point, I should like to underline the high quality of his research publications. Beside the fact that these publications contain several remarkable results - sometimes solutions for some hard open problems- their formulation is also of a high quality. They are elaborated very carefully, their language and style is transparent and attractive. The majority of these publications appeared in leading mathematical (or physical) journals, like Algebra Universalis, Houston Journal of Mathematics, Applied Categorical Structures, Journal of Australian Math. Soc, or International Journal of Theoretical Physics.

The application submitted by the candidate contains 136 independent citations of his publications, however, I should like to mention that Google Scholar recognizes 430 citations of Miroslav Haviar's papers, and that 70 of these citations are from well-known citation databases as WoS, Scopus, etc. Moreover, a number of 35 (independent) citations appears in some basic monographs related to this field, for instance, in G. Grätzer, General Lattice Theory 2nd edition, or G. Grätzer, Lattice Theory: Foundation.

Miroslav Haviar contributed as one of the main organizers to several scientific conferences on the field of general algebra and lattice theory, resulting to attract many persons with a high scientific reputation to these conferences. He had been several times an invited speaker of prestigious conferences from the mentioned fields. He is an editor of Algebra Universalis and since 2009, editor-in-chief of the journal Acta Universitatis Mathaei Belii, and a reviewer of Mathematical Reviews (since 1995). Miroslav Haviar spent several years in foreign universities, both as a grant holder, and both as a visiting professor. He is also a member of American, Australian and Slovakian Mathematical Societies, he was one of the main investigators (or just the principal investigator) in 11 founded research projects.

Therefore, I can state with great certainty that both the research results, both the activity in the life of the mathematical community of Dr. Miroslav Haviar more than enough fulfil the requirements of an internationally recognized professor.

Concerning the educational-didactical work of Dr. Miroslav Haviar I have a similar opinion which is based on the following indisputable facts:

He was the scientific supervisor of two PhD students having a successful defence, and he is still a supervisor of a PhD student. Dr. Haviar also supervised 20 bachelor and master theses, and he is the author of two textbooks (Algebra I and III) for graduate students, and of several publications related with didactics and history of mathematics. He was one of the main investigators of three projects focused on education and on popularization of mathematics. He was the organizer of Mathematical Colloquium (Banskobystrický matematický seminár) in the period Oct. 2008 - Apr. 2014. Since 2006 he supervised 8 students scientific activity projects (ŠVOČ theses). He is popular among his students and they considered him an attractive and highly qualified lecturer.

Thus, my conclusion is that the educational work of the candidate Dr. Miroslav Haviar also fulfils completely the requirements for a recognized university professor, therefore I am recommending strongly his inauguration as a full professor.

Miskolc, February 17, 2017. Prof. Sándor Radeleczki