

## *CURRICULUM VITAE*

### *Personal Details*

Name	Miroslav Haviar
Citizenship	Slovakia
Marital status	Married, 5 children

### *Education History*

MSc in Mathematics	Faculty of Mathematics and Physics, Comenius University, Bratislava, Slovakia, 1988 (with Prize of Minister of Education of Slovakia)
PhD in Mathematics	Faculty of Mathematics and Physics, Comenius University, Bratislava, Slovakia, 1993
Doc (habilitation) in Mathematics	Faculty of Mathematics and Physics, Comenius University, Bratislava, Slovakia, 2002
Prof (inauguration) in Mathematics	Faculty of Mathematics and Physics, Comenius University, Bratislava, Slovakia, 2017

### *Employment History*

1993 - 1995	Assistant Professor	Pedagogic Faculty, Matej Bel University, Banská Bystrica, Slovakia
1995 - 2002	Research Associate	Pedagogic Faculty, Matej Bel University, Banská Bystrica, Slovakia
2003 - 2007	Associate Professor	Pedagogic Faculty, Matej Bel University, Banská Bystrica, Slovakia
2008 - 2017	Associate Professor	Faculty of Natural Sciences, Matej Bel University, Banská Bystrica, Slovakia
2018 – present	Full Professor	Faculty of Natural Sciences, Matej Bel University, Banská Bystrica, Slovakia

### *Fellowships*

1993 - 1994 (9 months)	Visiting Fellow	University of Oxford, UK
1998 - 2000 (24 months)	Postdoctoral Research Fellow	La Trobe University Melbourne, Australia
2004 (2 months)	Honorary Associate Fellow	Institute for Advanced Study Melbourne, Australia

### *Main research interests* (MSC 2010)

- 03 Mathematical logic and foundations
- 05 Combinatorics (including Graph theory)
- 06 Order, lattices, ordered algebraic structures
- 08 General algebraic systems

11 Number theory  
97 Mathematics education

### ***Research experience.***

My professional career comprises more than thirty three years of research in the fields of Algebra, Number theory and Mathematics Education. The main topics throughout my scientific career have been the study of lattices, lattice congruences and affine completeness of distributive lattice-based algebras [1]-[2], [4]-[7], [9]-[10], [12], [14]-[15], [17], [33], [36], [41], [53]-[54] (cf. the Publication list below), the study of finitely generated free algebras in the varieties of orthomodular lattices [13], [16], [20], [22], [51], the study of dualisability problems for algebras and their applications investigated jointly with B.A. Davey and H.A. Priestley [8], [11], [18], [19], [23], [42] at Oxford University and topics concerning full, strong and optimal dualities for algebras and related structures investigated jointly with prof. B.A. Davey and other members of his research group [21], [24]-[28], [30]-[31], [35], [43], [55] in Melbourne. I have also been working with M.J. Gouveia in Lisbon on transferral of entailment in duality theory [39], [40] and with H.A. Priestley (Oxford), B.A. Davey (Melbourne), M.J. Gouveia (Lisbon) and more recently with A.P.K. Craig (Oxford and then Johannesburg) on the study of canonical extensions of lattice-ordered algebras, piggyback dualities and Bohr compactifications of algebras [29], [32], [37]-[38], [45]-[46], [48]-[50], [56]. With B.A. Davey and A.P.K. Craig we have recently studied bilattices [52], [57]. My research interests also include Number theory where I coauthored [34] and Combinatorics and Graph theory where I coauthored [44].

Recently I coauthored two books. With my former PhD student Michal Ivaška we published a research monograph *Vertex labellings of simple graphs* (2015) and with my colleague Pavel Klenovčan a textbook *BASIC ALGEBRA for future teachers* (2016).

I have been a member of different research teams. My previous collaboration with the research group of Prof. Davey in Melbourne (mainly during the two-year postdoctoral stay commenced in October 1998) proved to be particularly fruitful. My research collaborators come from several countries (Australia, Portugal, Slovakia, South Africa, UK).

My professional career started in August 1989 at the Faculty of Mathematics and Physics of Comenius University in Bratislava, Slovakia. From January 1993 I took a position at Matej Bel University in Banská Bystrica, Slovakia, where I worked as an Assistant Professor until 1995 and a Research Associate until 2002. I was an Associate Professor there between 2003 and 2017 and from 2018 I have been working at Matej Bel University as a full professor of Mathematics. I spent the academic year 1993/94 as a Visiting Scholar at the University of Oxford and the two-year period Oct 1998 - Oct 2000 as a Postdoctoral Research Fellow at the La Trobe University in Melbourne.

Since 2008 I have become an Editor of *Algebra Universalis* which is the main journal in the field of Universal Algebra (the journal is now listed in the Current Contents database). Since 1990 I have given about 80 conference and seminar talks. These included invited plenary lectures at international conferences in Lisbon (2003), Nashville (2007), Oxford (2011), Melbourne (2013) and Bratislava (2018). They also included invited seminar talks in Oxford (1993), Glasgow (1994), Olomouc (1997, 2010, 2014, 2016, 2017), Melbourne (1999, 2003, 2005, 2006), Lisbon (2004, 2008, 2013, 2019) and Vienna (1994, 1996, 2008, 2013, 2017).

### ***Awards, honours and scholarships***

1. Prize of Minister of Education for outstanding study results, 1988

2. Soros/Foreign and Commonwealth Office Scholarship at University of Oxford, Oxford, UK, October 1993 - June 1994
3. Price of Rector of Matej Bel University for research, 1996
4. Postdoctoral Research Fellowship at La Trobe University, Melbourne, Australia, October 1998 - October 2000
5. Invited speaker at the conference Lattices, Universal Algebra and Applications, Lisbon, Portugal, May, 2003
6. Oxford Colleges Hospitality Scheme at University of Oxford and Somerville College, Oxford, UK, July - August, 2003
7. Honorary Associate Fellowship at IAS of La Trobe University, Melbourne, Australia, October 2004 - December 2004
8. Plenary speaker at the Conference on Order, Algebra and Logics, Nashville, USA, June, 2007
9. Silver medal of Matej Bel University for research and grants, September, 2009
10. Invited speaker at the Workshop on Duality Theory, Mathematical Institute, University of Oxford, UK, August, 2011
11. Plenary speaker at the conference General Algebra and Its Applications (GAIA 2013), Melbourne, Australia, July 2013.
12. Invited speaker at the conference Arbeitstagung Allgemeine Algebra 2018, Comenius University, Bratislava, Slovakia, February 2018.

## *Publications*

### **Published papers in peer reviewed scholarly journals**

- [1] **Haviar, Miroslav - Katriňák, Tibor:** Lattices whose congruence lattice is relative Stone. In: Acta Scientiarum Mathematicarum. - Vol. 51, No. 1-2 (1987), pp. 81-91
- [2] **Haviar, Miroslav:** Lattices whose congruence lattices satisfy Lee's identities. In: Demonstratio Mathematica. - Vol. 24, No. 1-2 (1991), pp. 247-261
- [3] **Chajda, Ivan - Haviar, Miroslav:** Induced pseudoorders. In: Acta Universitatis Palackianae Olomucensis, Facultas Rerum Naturalium - Mathematica. - Vol. 30, No. 1 (1991), pp. 9-16
- [4] **Haviar, Miroslav:** On affine completeness of distributive p-algebras. In: Glasgow Mathematical Journal. - Vol. 34, Part 3 (1992), pp. 365-368
- [5] **Haviar, Miroslav:** Affine complete algebras abstracting Kleene and Stone algebras. In: Acta Mathematica Universitatis Comenianae-New Series. - Vol. 62, No. 2 (1993), pp. 179-190
- [6] **Haviar, Miroslav:** On a certain construction of MS-algebras. In: Portugaliae Mathematica. - Vol. 51, Fasc. 1 (1994), pp. 71-83

- [7] **Haviar, Miroslav:** Affine complete Stone and Post algebras of order  $n$ .  
In: Acta Universitatis Matthiae Belii: Series Mathematics. - Vol. 2 (1994), pp. 19-30
- [8] **Davey, Brian A. - Haviar, Miroslav - Priestley, Hilary A.:** The syntax and semantics of entailment in duality theory. In: Journal of Symbolic Logic. - Vol. 60, No. 4 (1995), pp. 1087-1114
- [9] **Haviar, Miroslav - Ploščica, Miroslav:** Affine complete Stone algebras. In: Algebra Universalis. - Vol. 34, No. 3 (1995), pp. 355-365
- [10] **Haviar, Miroslav:** The study of affine completeness for quasi-modular double  $p$ -algebras. In: Acta Universitatis Matthiae Belii: Series Mathematics. - Vol. 3 (1995), pp. 17-30
- [11] **Davey, Brian A. - Haviar, Miroslav - Priestley, Hilary A.:** Endoprimal distributive lattices are endodualisable. In: Algebra Universalis. - Vol. 34, No. 3 (1995), pp. 444-453
- [12] **Haviar, Miroslav:** Affine complete algebras abstracting double Stone and Kleene algebras. In: Acta Universitatis Matthiae Belii: Series Mathematics. - Vol. 4 (1996), pp. 39-52
- [13] **Haviar, Miroslav - Konôpka, Pavol - Priestley, Hilary A. - Wegener, Claudia B.:** Finitely generated free modular ortholattices I. In: International Journal of Theoretical Physics Vol. 36, No. 12 (1997), pp. 2639-2660
- [14] **Haviar, Miroslav - Kaarli, Kalle - Ploščica, Miroslav:** Affine completeness of Kleene algebras. In: Algebra Universalis. - Vol. 37, No. 4 (1997), pp. 477-490
- [15] **Haviar, Miroslav - Ploščica, Miroslav:** Affine completeness of Kleene algebras II. In: Acta Universitatis Matthiae Belii: Series Mathematics. - Vol. 5 (1997), pp. 51-61
- [16] **Haviar, Miroslav - Konôpka, Pavol - Wegener, Claudia B.:** Finitely generated free modular ortholattices II. In: International Journal of Theoretical Physics – Vol. 36, No. 12 (1997), pp. 2661-2679
- [17] **Ploščica, Miroslav - Haviar, Miroslav:** On order-polynomial completeness of lattices. In: Algebra Universalis. - Vol. 39, No. 3-4 (1998), pp. 217-219
- [18] **Haviar, Miroslav - Priestley, Hilary A.:** A criterion for a finite endoprimal algebra to be endodualisable. In: Algebra Universalis - Vol. 42, No. 3 (1999), pp. 183-193
- [19] **Haviar, Miroslav - Priestley, Hilary A.:** Endodualisable and endoprimal finite double Stone algebras. In: Algebra Universalis. - Vol. 42, No. 1-2 (1999), pp. 107-130. Remark: Reprinted due to wrongly printed 1<sup>st</sup> version in: Algebra Universalis - Vol. 58, No. 2 (2008), pp. 203-228
- [20] **Haviar, Miroslav - Konôpka, Pavol:** Finitely generated free orthomodular lattices IV. In: Acta Universitatis Matthiae Belii: Series Mathematics. - Vol. 7 (1999), pp. 13-29
- [21] **Davey, Brian A. - Haviar, Miroslav:** A schizophrenic operation which aids the efficient transfer of strong dualities. In: Houston Journal of Mathematics. - Vol. 26, No. 2 (2000), pp. 215-222
- [22] **Haviar, Miroslav - Konôpka, Pavol:** Finitely generated free orthomodular lattices III.

In: International Journal of Theoretical Physics. - Vol. 39, No. 3 (2000), pp. 727-735

- [23] **Davey, Brian A. - Haviar, Miroslav - Priestley, Hilary A.:** Kleene algebras: A case study of clones and dualities from endomorphisms. In: Acta Scientiarum Mathematicarum. - Vol. 67, No. 1-2 (2001), pp. 77-103
- [24] **Clark, David M. - Davey, Brian A. - Haviar, Miroslav - Pitkethly, Jane G. - Talukder, M. Rashed:** Standard topological quasi-varieties. In: Houston Journal of Mathematics - Vol. 29, No. 4 (2003), pp. 859-887
- [25] **Davey, Brian A. - Haviar, Miroslav:** Transferring optimal dualities: Theory and practice. In: Journal of the Australian Mathematical Society - Vol. 74, Part 3 (2003), pp. 393-420
- [26] **Davey, Brian A. - Haviar, Miroslav:** Applications of Priestley duality in transferring optimal dualities. In: Studia Logica - Vol. 78, No. 1-2 (2004), pp. 213-236
- [27] **Davey, Brian A. - Haviar, Miroslav - Willard, Ross:** Full does not imply strong, does it? In: Algebra Universalis - Vol. 54, No. 1 (2005), pp. 1-22
- [28] **Davey, Brian A. - Haviar, Miroslav - Willard, Ross:** Structural entailment. In: Algebra Universalis. - Vol. 54, No. 4 (2005), pp. 397-416
- [29] **Haviar, Miroslav - Priestley, Hilary A.:** Canonical extensions of Stone and double Stone algebras: the natural way. In: Mathematica Slovaca - Vol. 56, No. 1 (2006), pp. 53-78
- [30] **Davey, Brian A. - Haviar, Miroslav - Niven, Todd:** When is a full duality strong? In: Houston Journal of Mathematics - Vol. 33, No. 1 (2007), pp. 1-22
- [31] **Davey, Brian A. - Haviar, Miroslav - Niven, Todd - Perkal, Narwin:** Full but not strong dualities at the finite level: Extending the realm. In: Algebra Universalis - Vol. 56, No. 1 (2007), pp. 37-56
- [32] **Davey, Brian A. - Haviar, Miroslav - Priestley, Hilary A.:** Boolean topological distributive lattices and canonical extensions. In: Applied Categorical Structures - Vol. 15, No. 3 (2007), pp. 225-241
- [33] **Ploščica, Miroslav - Haviar, Miroslav:** Congruence-preserving functions on distributive lattices. In: Algebra Universalis - Vol. 59, No. 1-2 (2008), pp. 179-196
- [34] **Haviar, Miroslav - Maličský, Peter:** Superprimes and generalized Dirichlet theorem. In: Acta Universitatis Matthiae Belii: Series Mathematics. - Vol. 15 (2009), pp. 21-35
- [35] **Davey, Brian A. - Haviar, Miroslav - Pitkethly, Jane G.:** Using coloured ordered sets to study finite-level full dualities. In: Algebra Universalis - Vol. 64, No. 1-2 (2010), pp. 69-100
- [36] **Guffová, Daniela - Haviar, Miroslav:** Lattices with relative Stone congruence lattices II. In: Acta Universitatis Matthiae Belii: Series Mathematics. - Vol. 17 (2010) - pp. 41-55
- [37] **Davey, Brian A. - Gouveia, Maria Joao - Haviar, Miroslav - Priestley, Hilary A.:** Natural extensions and profinite completions of algebras. In: Algebra Universalis - Vol. 66, No. 3 (2011), pp. 205-241

- [38] **Davey, Brian A. - Gouveia, Maria Joao - Haviar, Miroslav - Priestley, Hilary A.:** Multisorted dualisability: change of base. In: *Algebra Universalis* - Vol. 66, No. 4 (2011), pp. 331-336
- [39] **Gouveia, Maria Joao - Haviar, Miroslav:** Transferral of entailment in duality theory: Dualisability. In: *Czechoslovak Mathematical Journal* - Vol. 61, No. 1 (2011), pp. 41-63
- [40] **Gouveia, Maria Joao - Haviar, Miroslav:** Transferral of entailment in duality theory II: Strong dualisability. In: *Czechoslovak Mathematical Journal* - Vol. 61, No. 2 (2011), pp. 401-417
- [41] **Badawy, Abd El-Mohsen - Guffová, Daniela - Haviar, Miroslav:** Triple constructions of decomposable MS-algebras. In: *Acta Universitatis Palackianae Olomucensis, Facultas Rerum Naturalium. Mathematica* - Vol. 51, No. 2 (2012), pp. 53-65
- [42] **Davey, Brian A. - Haviar, Miroslav - Priestley, Hilary A.:** Natural dualities in partnership. In: *Applied Categorical Structures* - Vol. 20, No. 6 (2012), pp. 583-602
- [43] **Davey, Brian A. - Haviar, Miroslav - Pitkethly, Jane G.:** Full dualisability is independent of the generating algebra. In: *Algebra Universalis* - Vol. 67, No. 3 (2012), pp. 257-272
- [44] **Haviar, Miroslav - Ivaška, Michal:** Conjecture on Dinitz Problem and improvement of Hrnčiar's result. In: *Acta Universitatis Matthiae Belii: Series Mathematics.* - Vol. 21 (2013), pp. 43-53
- [45] **Craig, Andrew P. K. - Haviar, Miroslav - Priestley, Hilary A.:** A fresh perspective on canonical extensions for bounded lattices. In: *Applied Categorical Structures* - Vol. 21, No. 6 (2013), pp. 725-749
- [46] **Craig, Andrew P. K. - Haviar, Miroslav:** Reconciliation of approaches to the construction of canonical extensions of bounded lattices. In: *Mathematica Slovaca* - Vol. 64, No. 6 (2014), pp. 1335-1356
- [47] **Haviar, Alfonz - Haviar, Miroslav:** Weak subgroupoid lattices. In: *Mathematica Slovaca* - Vol. 64, No. 3 (2014), pp. 665-674
- [48] **Craig, Andrew P. K. - Gouveia, Maria Joao - Haviar, Miroslav:** TiRS graphs and TiRS frames: a new setting for duals of canonical extensions. In: *Algebra Universalis* - Vol. 74, No. 1-2 (2015), pp. 123-138
- [49] **Davey, Brian A. - Haviar, Miroslav - Priestley, Hilary A.:** Piggyback dualities revisited. In: *Algebra Universalis* - Vol. 76, No. 2 (2016), pp. 245-285
- [50] **Davey, Brian A. - Haviar, Miroslav - Priestley, Hilary A.:** Bohr compactifications of algebras and structures. In: *Appl. Categ. Structures* - Vol. 25, No. 3 (2017), pp. 403-430
- [51] **Haviar, Miroslav:** On finitely generated free orthomodular lattices. In: *Acta Universitatis Matthiae Belii: Series Mathematics.* - Vol. 26 (2018), pp. 27-57.
- [52] **Craig, Andrew P. K. - Davey, Brian A. - Haviar, Miroslav:** Expanding Belnap: dualities for

a new class of default bilattices. 40 pp. In: Alg. Universalis (submitted). arXiv:1808.09636.

- [53] **Badawy, Abd - Haviar, Miroslav - Ploščica, Miroslav:** Congruence pairs of principal MS-algebras and perfect extensions. Dedicated to the memory of Professor Beloslav Riečan. 16 pp. In: Mathematica Slovaca (submitted). arXiv 1912.11905.
- [54] **Ploščica, Miroslav - Haviar, Miroslav:** Perfect extensions of de Morgan algebras. 8 pp. In: Studia Logica (submitted). arXiv 1912.12891.
- [55] **Haviar, Miroslav:** On selected developments in the theory of natural dualities. In: Acta Universitatis Matthiae Belii: Series Mathematics. - Vol. 27 (2019), pp. 59-78.
- [56] **Craig, Andrew P. K. – Gouveia, Maria J. - Haviar, Miroslav:** Canonical extensions of lattices are more than perfect. In memory of Bjárni Jónsson. 16 pp. arXiv 2001.04182.
- [57] **Craig, Andrew P. K. - Davey, Brian A. - Haviar, Miroslav:** Expanding Belnap: dualities for a new class of default bilattices II. 14pp. (in preparation).

### Papers in reviewed conference proceedings

- [1] **Haviar, Miroslav, Katriňák, Tibor:** Semi-discrete lattices with  $(L_n)$ -congruence lattices. In: Contributions to General Algebra, Vol. 7 - Wien: Hölder-Pichler-Tempsky, 1991. - pp. 189-195. - ISBN 3-209-01380-2 [General Algebra 1990: Conference Vienna, 14.-17.6.1990]
- [2] **Haviar, Miroslav:** Construction and affine completeness of principal p-algebras. In: Tatra Mountains Mathematical Publications. - Vol. 5 (1995), pp. 217-228 [General Algebra and Ordered Sets 1993: Summer School. Liptovský Ján, 29.8.-5.9.1993]
- [3] **Guffová, Daniela - Haviar, Miroslav:** Lattices with relative Stone congruence lattices. In: Contributions to General Algebra, Vol. 19 - Klagenfurt: Verlag Johannes Heyn, 2010 – pp. 81-90- ISBN 978-3-7084-0407-3. [AAA 2010: Arbeitstagung Allgemeine Algebra: International Conference 79, Olomouc, 12.-14.2. 2010]

### Books

- [4] **Miroslav Haviar, Michal Ivaška:** Vertex labellings of simple graphs. Research and Exposition in Mathematics , Vol. 34, Heldermann Verlag [1<sup>st</sup> ed.] Lemgo (Germany), 2015 - 155 pp. ISBN 978-80-89238-14-9
- [5] **Miroslav Haviar, Pavel Klenovčan:** BASIC ALGEBRA for future teachers. (Revs. G. Jones, T. Zdráhal, R. Zimka), Belianum [1<sup>st</sup> ed.], Banská Bystrica, 2016 - xii, 329 pp. ISBN 978-80-557-1035-8

### Book chapters

- [6] **Davey, Brian A. - Haviar, Miroslav:** Modified Priestley dualities as natural dualities. In: G. Grätzer, Lattice Theory: Foundation -Basel: Springer, 2011 - pp. 434-437 - ISBN 978-3-0348-0017-4

## Theses

- [7] **Haviar, Miroslav:** Algebras abstracting finite Stone algebras. Construction and affine completeness – 83 pp. PhD thesis, Comenius University, Bratislava, 1992
- [8] **Haviar, Miroslav:** Three topics in algebra motivated by Boolean algebras – 154 pp. Habilitation thesis, Comenius University, Bratislava, 2001

## Lecture notes

- [9] **Klenovčan, Pavel - Haviar, Alfonz - Haviar, Miroslav:** Introduction into the study of Mathematics. – 1st ed. - Banská Bystrica: Univerzita Mateja Bela, 1996. - 98 pp. (in Slovak). ISBN 80-8055-010-7
- [10] **Haviar, Miroslav - Klenovčan, Pavel:** Algebra I: Algebraic structures. – 1st ed. – Banská Bystrica: Univerzita Mateja Bela, 1998. - 93 pp. (in Slovak). ISBN 80-8055-134-0
- [11] **Haviar, Miroslav:** Algebra III : Linear algebra. – 1st ed. - Banská Bystrica: Univerzita Mateja Bela, 2001 – 92 pp. (in Slovak). ISBN 80-8055-493-5

## Citations in monographs

There are 35 citations on my research papers in the monographs:

- (1) G. Grätzer, General Lattice Theory, 2nd edition, Birkhäuser Verlag, BaselBoston-Berlin, 1998, ISBN 3-7643-5239-6 (Basel), ISBN 0-8176-5239-6 (Boston) - 13 citations.
- (2) K. Kaarli and A.F. Pixley, Polynomial Completeness in Algebraic Systems, Chapman and Hall/CRC, New York-Washington, D.C., 2000, ISBN 1-58488-203-4 - 9 citations.
- (3) A. Dvurečenskij and S. Pulmanová, New trends in Quantum Structures, Mathematics and Its Applications, Kluwer Academic Publishers, DordrechtBoston-London & Ister Science, Bratislava, 2000, ISBN 0-7923-6471-6 (Kluwer), ISBN 80-88683-23-8 (Ister) - 3 citations.
- (4) G. Grätzer, Lattice Theory: Foundation, Birkhäuser, Springer Basel AG 2011, ISBN 978-3-0348-0017-4 - 10 citations.

## Conference communications and seminar talks

Since 1990 I have given about 80 conference and seminar talks, mostly abroad (the full list is available at <http://www.fpv.umb.sk/~mhaviar/Talks.htm> ). This included invited plenary lectures at international conferences in Lisbon (2003), Nashville (2007), Oxford (2011), Melbourne (2013) and Bratislava (2018).

## Other professional activities

- (1) Editor of the international journal Algebra Universalis (since the end of 2008).
- (2) Editor-in-Chief of the international mathematical journal Acta Universitatis Mathaei Belii, series Mathematics (since 2010).
- (3) Member of Working group for Mathematics and Statistics of Slovak Accreditation Committee (2006 - 2019).
- (4) The Chair of the international conferences 40th, 45<sup>th</sup>, 50th and 55th Summer Schools on Algebra 2002, 2007, 2012 and 2017.
- (5) The co-organizer of the Summer Schools on Algebraic Graph Theory 2014 and 2015.
- (6) Organizer of Mathematical colloquium at M. Bel University (since Oct 2008 till April 2014).
- (7) Member of Committee for Mathematics of Slovak grant agency VEGA (since June 2016).



- (8) Reviewer for the Mathematical Reviews (since 1995).
- (9) Member of Jesus College Oxford Association - Old Members (since 1994).
- (10) Member of American, Australian and Slovakian Mathematical Societies.

### ***Students' supervision***

- (1) I supervised four PhD students who successfully defended their PhD theses (Daniela Guffová and Michal Ivaška in 2014, Alžbeta Brišová in 2016 and Andrea Sisáková in 2019).
- (2) Since 2006 I supervised 11 Bc. theses that were defended successfully under the study programs Teaching of academics subjects (preparation of future teachers of Mathematics) for lower and upper secondary education or the study program Mathematics. Currently I supervise other 2 Bc. theses in the study program Mathematics.
- (3) Since 2001 I supervised 9 MSc. theses that were defended successfully under the study program Teaching of academics subjects for lower and upper secondary education. Currently I supervise other 2 MSc. theses in the study program Mathematics in analysis of data and in finances.
- (4) During 1995-2019 I supervised 41 final theses in the external study program Extended study of Mathematics for lower and upper secondary education or diploma theses in the internal 5-year study program Teaching of academics subjects for lower secondary education only. Currently I supervise other 5 theses in the study program Extended study of Mathematics for lower and upper secondary education.
- (5) Since 2006 I have supervised 8 ŠVOČ theses (students' scientific activity projects).

### ***Experience in evaluation***

- (1) In 2001-02 I was evaluating a part of the Field Trial for the OECD Programme for International Student Assessment (PISA) in the areas of Mathematics and Problem solving.
- (2) In 2005-06 I was serving as an evaluator of research and mobility proposals for the agency INTAS (in Brussels) to promote scientific co-operation of EU with the twelve New Independent States (NIS) to strengthen their research potential. I was serving as an expert in Brussels also during 2018 and 2019.
- (3) In 2003-06 I was a member of the European educational grant 112318-CP-1-2003-1-IT-COMENIUS-C21 titled LOSSTT-IN-MATH which, besides purely educational goals, aimed at pressing policy makers in Education to create better conditions for new Mathematics teachers due to partly shared curriculum in teacher training institutions throughout Europe.
- (4) Between 2006 – 2019 I was a member of the Working Group of the Accreditation Committee for Mathematics and Statistics as an Advisory Board of the Slovak government and I had been involved in the evaluation procedures to award accreditations for different study programmes (mostly in Mathematics and Mathematics education) at Slovak high education institutions.
- (5) In 2010 I was a proposal evaluator under the DESMI 2009-2010 programme co-funded by the Republic of Cyprus and the European Regional Development Fund.
- (6) Between 2002-2017 I was evaluating/examining five PhD and three MSc theses for La Trobe University in Melbourne and a PhD thesis for University of Tartu in Estonia.
- (7) Since 1994 I have been reviewing current published mathematical research for an American reviewing journal Mathematical Reviews - I prepared more than 110 reviews for it.
- (8) Since June 2016 I have been serving as a member of Committee of Slovak grant agency VEGA responsible for evaluating research proposals in Mathematics and Physics.

In Banská Bystrica, Slovakia  
January 2020

Prof. Miroslav Haviar