

RESUME

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Areas of specialization

Mathematical logic, set theory

Education

DSc. in Mathematics, Czech Academy of Sciences 2007

Ph. D. in Mathematics, The Pennsylvania State Univ. 1995, supervisor T. Jech

M. A. in Mathematics, Charles University, Prague 1994

B. A. in Mathematics, Charles University, Prague 1990

Employment

2022 visiting position, Institute of Mathematics, Czech Academy of Sciences

2009-present professor, University of Florida

2009-2012 Purkyně Fellow, Czech Academy of Sciences

2005-2009 associate professor, University of Florida

2000-2005 assistant professor, University of Florida

1998-2000 John Wesley Young instructor, Dartmouth College

1996-1998 Bateman research instructor, California Institute of Technology

1995-1996 postdoctoral fellow, Math. Sciences Research Institute Berkeley

1990-1995 teaching assistant, The Pennsylvania State University

Publications

Two graph games, with David Chodounský, David, *Electron. J. Combin.* 31 (2024), no. 2, Paper No. 2.44, 14 pp.

On the consistency strength of $MM(\omega_1)$, with Dobrinen, Natasha; Krueger, John; Marun, Pedro; Mota, Miguel Angel, *Proc. Amer. Math. Soc.* 152 (2024), no. 5, 22292237

Subadditive families of hypergraphs, *Ann. Pure Appl. Logic* 175 (2024), no. 1, Paper No. 103322, 8 pp.

Coloring closed Noetherian graphs, *Journal of Mathematical Logic*, in print.

Coloring the distance graphs, *Eur. J. Math.* 9 (2023), no. 3, 66.

Coloring triangles and rectangles Coloring triangles and rectangles, *Comment. Math. Univ. Carolin.* 64 (2023), no. 1, 8396

Krull dimension in set theory *Ann. Pure Appl. Logic* 174 (2023), no. 9, Paper No. 103299, 16 pp.

Polar forcings and measured extensions, with Paul Larson. *Topology Appl.* 323 (2023), Paper No. 108290, 12 pp.

Sequential topologies and Dedekind finite sets. *MLQ Math. Log. Q.* 68 (2022), no. 1, 107109

Set Theory and Foundations of Mathematics: An Introduction to Mathematical Logic, Volume II: Foundations. With Douglas Cenzer, Christopher Porter, and Jean Larson, World Scientific.(2022), 239 pages, ISBN: 978-981-124-384-4; 978-981-124-385-1; 978-981-124-386-8

Structure and Randomness in Computability and Set Theory (edited with Douglas Cenzer and Chris Porter), World Scientific Press (2020), 366 pages, ISBN-10: 9813228229

Ideals and their generic ultrafilters, with David Chodounský, *Notre Dame J. Formal Logic* 61, Number 3 (2020), 403-408

Preservation theorems for Namba forcing, with Osvaldo Guzmán and Michael Hrušák, *Annals of Pure and Applied Logic* 172, Issue 2, February 2021, 102869

Geometric set theory, with Paul Larson, 320 pp. *AMS Surveys and Monographs* 248, 2020, ISBN 978-1-4704-6018-1

Set Theory and Foundations of Mathematics: An Introduction to Mathematical Logic, Volume I: Set Theory. With Douglas Cenzer, Christopher Porter, and Jean Larson, World Scientific 2020, ISBN 978-981-120-192-9

Hypergraphs and proper forcing, *J. Math. Log.* 19 (2019), no. 2, 1950007, 64 pp.

Discontinuous homomorphisms, selectors, and automorphisms of the complex field, with Paul Larson, *Proc. Amer. Math. Soc.* 147 (2019), no. 4, 1731–1737

Separating equivalence classes. *Comment. Math. Univ. Carolin.* 59 (2018), no. 4, 531540

Bounded Namba Axiom may fail, *Math. Logic Quarterly* 64 (2018), no. 3, 170–172

Cardinal invariants of closed graphs, with Francis Adams, *Israel J. Math.* 227 (2018), no. 2, 861-888

Canonical models for fragments of the axiom of choice, with Paul Larson, *J. Symb. Log.* 82 (2017), no. 2, 489-509

Strong measure zero sets in Polish groups, with Michael Hrušák, *Illinois J. Math.* 60 (2016), no. 3-4, 751760

Ramsey ultrafilters and countable-to-one uniformization, with Paul Larson and Richard Ketchersid, *Topology Appl.* 213 (2016), 190198

Interpreter for topologists, *J. Log. Anal.* 7 (2015), Paper 6, 61 pp.

Why Y-c.c., with David Chodounský, *Annals of Pure and Applied Logic* 166 (2015) 1123-1149

Dimension theory and forcing. *Topology Appl.* 167 (2014), 3135

Cofinalities of Borel ideals, with Michael Hrusak and Diego Rojas Rebolledo, *Math. Log. Q.* 60 (2014), no. 1-2, 3139

Analytic equivalence relations and the forcing method. *Bull. Symbolic Logic* 19 (2013), no. 4, 47349

Canonical Ramsey theory on Polish spaces, with Vladimir Kanovei and Marcin Sabok, *Cambridge Tracts in Mathematics*, 202. Cambridge University Press, Cambridge, 2013

Separation problems and forcing. *J. Math. Log.* 13 (2013), no. 1350002, 23 pp.

On the Steinhaus and Bergman properties for infinite products of finite groups, with Simon Thomas, *Confluentes Math.* 4 (2012)1250002, 26 pp.
 Pinned equivalence relations, *Mathematical Research Letters* 18 (2011) 559-564
 More ideals with the Komjath-Laczkovich property, *Topology and Its Applications* 158 (2011) 1149-1156
 Forcing properties of ideals of closed sets, with Marcin Sabok, *J. Symbolic Logic* 76 (2011) 1075–1095
 Ramsey theorem for product of finite sets with submeasures, with Saharon Shelah, *Combinatorica* 31 (2011) 225-244
 On the existence of a sigma-closed dense subset, *Comment.Math.Univ.Carolin.* 51,3 (2010) 513-517
 Applications of the ergodic iteration theorem. *Math. Log. Q.* 56 (2010), no. 2, 116-125
 Regular embeddings of the stationary tower and Woodin’s Sigma Two Two maximality theorem, with Richard Ketchersid and Paul Larson, *J. Symbolic Logic* 75 (2010), no. 2, 711-727
 Preserving P -points in definable forcing. *Fund. Math.* 204 (2009), no. 2, 145-154
 Increasing δ_2^1 by a Namba-style forcing, with Richard Ketchersid and Paul Larson, *J. Symbolic Logic* 72 (2007), 1372–1378
 On the structure of stationary sets, with Qi Feng and Thomas Jech, *Sci. China Ser. A* 50 (2007) 615-627
 Forcing with quotients, with Michael Hrušák, *Archive Math. Logic* 47 (2008), 719-739
 Forcing idealized, *Cambridge Tracts in Mathematics*, Cambridge University Press 2008, ISBN 9780521874267
 Proper forcing and rectangular Ramsey theorems, *Israel J. Math.* 152 (2006), 29–47
 Between Maharam’s and von Neumann’s problem, with Ilijas Farah, *Math. Research Letters* 11 (2004), 673–684
 Four and more, *Ann. Pure Appl. Logic*, with Ilijas Farah, *Ann. Pure Appl. Logic* 140 (2006), 3–39
 Descriptive set theory and definable forcing, *Memoirs Amer. Math. Soc.* 793 (2004)
 Games with creatures, with S. Shelah, *Comm. Math. Univ. Carolinae* 44 (2003), 9–23
 Duality and the PCF theory, with S. Shelah, *Math. Research Letters* 9 (2002), 585–595
 Forcing with ideals of closed sets, *Comm. Math. Univ. Carolinae* 43,1 (2002), 181–188
 Isolating cardinal invariants, *J. Math. Logic*, 2003, 143-162
 Terminal notions in set theory, *Ann. Pure Appl. Logic* 109 (2001), 89–116
 Transfinite open games, *Topology and Its Applications* 111 (2001), 289–297
 Killing ideals and adding reals, *J. Symbolic Logic* 65 (2000), 747–755
 The nonstationary ideal and the other sigma ideals on omega one, *Trans. Amer. Math. Soc.* 352 (2000), 3981–3993

Terminal notions, *Bull. Symbolic Logic* 5 (1999), 470–484
 On the Alaoglu-Birkhoff equivalence of posets, with S. Todorcevic, *Illinois J. Math.* 43 (1999), 281–292
 Canonical models for aleph one combinatorics, with S. Shelah, *Ann. Pure Appl. Logic* 98 (1999), 217–259
 Proper forcing and absoluteness in $L(R)$, with I. Neeman, *Comm. Math. Univ. Carolinae* 39 (1998), 281–301
 A dichotomy for forcing notions, *Math. Res. Lett.* 5 (1998) 213–226
 Preserving sigma-ideals, *J. Symbolic Logic* 63 (1998), 1437–1441
 Keeping additivity of the null ideal small, *Proc. Amer. Math. Soc.* 125 (1997), 2443–2451
 Embeddings of Cohen algebras, with S. Shelah, *Adv. Math.* 126 (1997), 93–119
 Semi-Cohen boolean algebras, with B. Balcar and T. Jech, *Ann. Pure Appl. Logic* 87 (1997), 187–208
 Strongly almost disjoint functions, *Israel J. Math.* 97 (1997), 101–111
 Small forcings and Cohen reals, *J. Symbolic Logic* 62 (1997), 280–284
 Splitting number at uncountable cardinals, *J. Symbolic Logic* 62 (1997), 35–42
 A classification of definable partial orders on omega one, *Fund. Math.* 153 (1997), 141–144
 Characterization of the club forcing, in *Papers on General Topology and Applications*, S. Andima, R. Flagg, G. Itzkowitz, Y. Kong, R. Kopperman and P. Misra, eds., *Annals of the New York Academy of Sciences* 806 (1996), 476–484
 A new proof of Kunen inconsistency, *Proc. Amer. Math. Soc.* 124 (1996), 2203–2205
 More on the cut and choose game, *Ann. Pure Appl. Logic* 76 (1995), 291–301

Grants

2023-2026 NSF grant DMS 2348371, Choiceless Set Theory
 2024-2027 NSF grant DMS 2401437 to organize annual weekend logic conference at UF, \$90000
 2020-2022 NSF grant DMS 1945890 to organize annual weekend logic conference at UF, \$45000
 2014–2018 NSF grant DMS-1362273 to organize annual weekend logic conference at UF, \$45000
 2012–2016 NSF grant DMS 1161078
 2010/2011 AIP project MEB051006, cooperation between Academy of Sciences, Czech Republic, and University of Wroclaw, CZK132000
 2009/2010 AIP project MEB060909, cooperation between Academy of Sciences, Czech Republic, and Kurt Goedel Center in Vienna, CZK126000
 2009-2012 Purkyně fellowship, Czech Academy of Sciences
 2009-present grant IAA100190902 of Grant Agency of the Academy of Sciences of the Czech Republic
 2008-2012 NSF grant DMS 0801114, \$110000
 2006-2007 NSF grant DMS 0532644 (PI) to organize special year in logic at UF, \$138000

2003-2006 grant GA ĀR 201-03-0933 of the Grant Agency of Czech Republic
2003-2006 NSF grant DMS 0335481 to organize an annual logic conference at
UF, \$15000
2003-2006 NSF grant DMS 0300201 \$103827
2000-2003 NSF grant DMS 0071437, \$61431
2000-2003 grant GA ĀR 201-00-1466 of the Grant Agency of Czech Republic
1997-2000 grant GA ĀR 201-97-0216 of the Grant Agency of Czech Republic

Selected lectures

Geometric Set Theory. A three lecture invited tutorial at "Young Set Theory"
meeting, Budapest, June 2024
Geometric Set Theory. A three lecture tutorial at "Perspectives in Set Theory"
conference, Warsaw, November 2023
Two Graph Games. An invited lecture at "Advances in Set Theory" meeting,
Hebrew University, Jerusalem, July 2022
Algebra and Axiom of Choice. An invited lecture at "Set Theory Workshop",
Erwin Schroedinger Institute, Vienna, July 2022
Hypergraphs and Proper Forcing. An invited lecture at Ideals and exceptional
sets in Polish spaces conference at Bernoulli Center, Lausanne, Switzerland,
June 5-8, 2018
Geometric Set Theory. An invited lecture at Set theory today conference at
Kurt Goedel Research Center, Vienna, Austria, September 10-14, 2018
Logic colloquium, UCLA December 2017
January 2016 ASL Winter Meeting, plenary lecture
May 2015, Rutgers University, four lecture tutorial
April 2015 Fields Institute forcing meeting
October 2014, Luminy set theory meeting
May 2014, Bedlewo Young Set Theory meeting, a three lecture tutorial
January 2011 Oberwolfach set theory meeting
October 2007 Special session, AMS regional meeting, Rutgers
July 2007 First European Set Theory Meeting, Bedlewo, Poland
August 2005 Logic Colloquium, Athens, plenary lecture
March 2004 Midrasha Mathematicae, Jerusalem, a three lecture tutorial

University Governance and Departmental Service

2024 CLAS sabbatical committee
2015-24 Graduate Committee
2007-8 Colloquium committee, Visitors and conferences committee
2006-7 Postdoc search committee (chair), Visitors and conferences committee
2005-6 Postdoc search committee (chair), Visitors and conferences committee
2004-5 Group proposals committee, Visitors and conferences committee

Honors

2024, leader, special semester in set theory, IMPAN Warsaw
2009 Purkyně Fellowship, Academy of Sciences, Czech Republic
2001 CLAS research award of University of Florida
1995 Pritchard dissertation fellowship, The Pennsylvania State University

Conferences Organized

North American Annual meeting of Association for Symbolic Logic 2022, Chair of the program committee.
AMS Special Session on Cech-Stone Compactification of Semigroups: Algebra, Topology, Dynamics, and Combinatorics, Southeastern Sectional Meeting of AMS, Gainesville, November 2019. With Dana Bartosova
AMS-ASL Special session on Choiceless Set Theory and Related Areas, Joint Mathematics Meetings, Denver, January 2020. With Paul Larson
Winter school in theory 2011 and 2012, Hejnice, Czech Republic, program committee
events of the Special year in Logic 2006-7 at UF, including 6 major meetings and hundreds of guests
South Eastern Logic Symposium, University of Florida, March 2001-2024 except for 2002, 2007, 2019

Extended Visits

February-July 2022, Institute of Mathematics, Czech Academy of Sciences, Prague
August-December 2012 Fields Institute, Toronto
June 2004 Universidad Nacional Autonoma de Mexico, Morelia, Mexico
November-December 2003 York University, Toronto
September-November 2003 CRM, Universita Autonoma Barcelona
July 2003 National University of Singapore
June 2003 Kobe University, Kobe, Japan
May 2003 California Institute of Technology
July-August 2002 Academia Sinica, Beijing
June 2002 Universite Paris VII, and IHES
April-May 2002 International Graduate School, Friedrich-Wilhelms Universität Bonn
February-March 2002 Hebrew University, Jerusalem

Other professional activities

Referee: Advances in Mathematics, Annals of Pure and Applied Logic, Journal of Symbolic Logic, Fundamenta Mathematica, Order, Proceedings of American Mathematical Society, University Lecture Series of AMS
Reviewer: DMS NSF, 1999, Israel Science Foundation 2004, United States-Israel Binational Science Foundation 2006, Wissenschaftfonds (Austrian scientific foundation), 2008
Panelist: DMS NSF, intermittently