

CURRICULUM VITAE WITH PUBLICATION LIST

ILIJAS FARAH
RESEARCH CHAIR IN LOGIC AND OPERATOR ALGEBRAS
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Ph.D. in Mathematics, University of Toronto, 1997

1. EMPLOYMENT HISTORY

2016–present Professor (status only), University of Toronto
2009–present Professor, York University
2006–2009 Associate Professor, York University
2002–2006 Assistant Professor, York University
2000–2003 Assistant Professor, CUNY–Graduate center and College of Staten Island
1999–2000 Hill Assistant Professor, Rutgers University
1997–1999 NSERC Postdoctoral Fellow, York University

Recent visiting positions.

- (1) Münster Research Fellow, WWU Münster, June–July 2023
- (2) Visiting Researcher at the Mathématiques Department at Université Paris Cité, January–March 2023.
- (3) Visiting Professor at the Mathematical Institute of the Serbian Academy of Sciences and Arts, July 1, 2019–June 30, 2024.
- (4) Clay Mathematics Institute researcher in the research program on Operator algebras: Dynamics and Interactions, CRM Barcelona, March–July 2017.
- (5) Ben Gurion University of the Negev Faculty of Science Distinguished Visitor, May 2015
- (6) Velux Visiting Professor, University of Copenhagen, fall 2013.
- (7) Invited Visiting Professor, National University of Singapore, July 2012.
- (8) Invited Visitor at the Mittag–Leffler Institute, fall 2009.
- (9) Invited Professor at Université Paris 7, July 2009.
- (10) Invited Professor at IHES, Bures-sur-Yvette, France, June 2002 and July 2008.
- (11) Member of the Fields Institute, Toronto, fall 2002 and fall 2007.
- (12) Invited Visiting Professor at the Kobe University, Japan, November 2006.
- (13) Invited Visiting Professor, The Erwin Schrödinger International Institute for Mathematical Physics, Vienna, December 2004.
- (14) Invited Visiting Professor, Christian–Albrechts-Universität zu Kiel, Germany, April 2004.

- (15) Invited Professor at CNRS/University of Paris 7, summer 2001.

Recent invited short-term visits.

- (1) University of Münster, June–August 2020 ¹
- (2) Université Paris Denis Diderot, April/May 2020.²
- (3) Harvard University, April 2014 and February 2016.
- (4) Hebrew University, November 2013 and December 2018.
- (5) University of Glasgow, October 2013 and July 2012.
- (6) Rutgers University, October 2010 and October 2011
- (7) Cornell University, April 2008.
- (8) University of Illinois at Urbana–Champaign, April 2008.
- (9) Washington University in St. Louis, February 2007.

2. ACADEMIC HONOURS

- (1) Faculty Excellence in Research Award (Established Research Award), Faculty of Science, York University, 2017.
- (2) Dean’s award for outstanding research, Faculty of Arts, York University, 2006.
- (3) Sacks prize for the best doctorate in Mathematical Logic in 1997 (co-recipient with Dr. T. Scanlon, Harvard University).
- (4) Governor General’s Gold Medal for one of the two best doctorates at the University of Toronto, 1998.
- (5) The Canadian Association for Graduate Studies/University Microfilms International Distinguished Dissertation Award, for the best dissertation in engineering, medicine and the natural sciences in Canada, 1998.

3. SCHOLARLY AND PROFESSIONAL ACADEMIC ACTIVITIES

- (1) Co-organizing (with R. Schindler, University of Münster, Dima Sinapova, UIC, and W.H. Woodin, Harvard University) Oberwolfach Set Theory Workshop, January 2025.
- (2) Co-organized (with B. Hart (McMaster)), Workshop on Operator Algebras and Applications: Connections with Logic, Fields Institute, August–September 2023.
- (3) Co-organizing (with M. Kennedy (Waterloo), J. Mingo (Queens), and A. Tikuisis (Ottawa)), Thematic Programme in Operator Algebras, Fields Institute, Fall 2023.
- (4) Co-organized (with M. Ali Asadi–Vasfi (Toronto), George Elliott (Toronto), Xuanlong Fu (Fields) and Maria Grazia Viola (Lakehead)), special session on Facets of Operator Algebras, CMS Winter meeting, Toronto, December 2022.
- (5) Co-organized (with Dana Bartošova, University of Florida) Special Session in Set Theory, Logic Colloquium 2022, June 2022, Reykjavik.
- (6) Member of the Scientific Advisory Committee, Canadian Operator Symposium (COSy), University of Ottawa, 2022.

¹Postponed because of COVID-19.

²Postponed because of COVID-19.

- (7) Co-organized (with R. Schindler, University of Münster, Dima Sinapova, UIC, and W.H. Woodin, Harvard University) Oberwolfach Set Theory Workshop, January 2022.
- (8) Co-organized (with F. Baudier, Texas A& M, B. de Mendonça Braga, University of Virginia, A. Khukro, Cambridge, A. Vignati, Université Paris Diderot, R. Willett, Hawaii) a SQuaRE (Structured Quartet Research Ensemble) meeting on Uniform Roe Algebras at the American Institute of Mathematics, March 2021/2022/2023/2024.
- (9) Co-organized (with G. Elliott, University of Toronto and P. Skoufranis, York) Canadian Operator Symposium (COSy), Fields Institute, May 2020.
- (10) Co-organized (with R. Schindler, University of Münster, Dima Sinapova, UIC, and W.H. Woodin, Harvard University) Oberwolfach Set Theory Workshop, April 2020.³
- (11) Co-organized (with B. Hart, McMaster) special session in Logic and Operator Algebras, Canadian Mathematical Society Meeting, Toronto, December 2019.
- (12) Co-organized (with F. Tall and others) 50 Years of Set Theory in Toronto Conference, Fields Institute, May 2019
- (13) Co-organized (with I. Goldbring, UC Irvine, D. Shlyakhtenko, UCLA, W. Winter, University of Münster), workshop on Model Theory and Operator Algebras, Banff International Research Station for Mathematical Innovation and Discovery (BIRS), November 2018.
- (14) Member of the Selection Committee for Mika Alas Lectures, Mathematical Institute of Serbian Academy of Sciences, 2019–present
- (15) Member of the NSERC Mathematics & Statistics Evaluation Group (EG 1508), 2018–2020.
- (16) Co-organized (with M. Sabok, McGill) special session in Logic and Operator Algebras, Canadian Mathematical Society Meeting, Waterloo, December 2017.
- (17) Co-organized (with S.D. Friedman, University of Vienna, R. Schindler, University of Münster, and W.H. Woodin, Harvard University) Oberwolfach Set Theory Workshop, February 2017.
- (18) Member of the Scientific Advisory Committee, Canadian Operator Symposium (COSy), McGill University, June 2016.
- (19) Co-organized (with Wilhelm Winter, University of Münster), workshop on Model Theory and Classification of C^* -algebras, University of Münster, July 2014.
- (20) York University Department of Mathematics and Statistics representative at the Fields Institute Annual General Meeting, June 2014.
- (21) Member of the Canadian Mathematical Society Board of Directors, 2013–2017.
- (22) Co-organized (with George Elliott, University of Toronto), East Coast Operator Algebras Symposium (ECOAS), May 2014.
- (23) Member of the Scientific Committee, GPOTS (Great Plains Operator Theory Symposium), University of Kansas, May 2014.
- (24) Co-organized (with S.D. Friedman, University of Vienna, M. Magidor, Hebrew University and W.H. Woodin, UC Berkeley) Mengenlehre Oberwolfach Workshop, January 2014.

³Postponed because of COVID-19.

- (25) Co-organized (with Man-Duen Choi, George A. Elliott, University of Toronto, and Thierry Giordano, Ottawa University), Canadian Operator Symposium, Fields Institute, May 2013.
- (26) Chair of the Program Committee of the Annual Meeting of the Association for Symbolic Logic, University of Waterloo, May 2013.
- (27) NSF review panelist, December 2012.
- (28) Co-organized (with A.S. Kechris, Caltech and A.S. Toms, Purdue) a workshop on ‘Applications of forcing to Operator Algebras,’ Fields Institute, September 2012.
- (29) Co-organized (with Edward Effros, UCLA, George Elliott, University of Toronto, and Andrew Toms, Purdue), a meeting on Descriptive set theory and functional analysis, Banff Institute, June 2012.
- (30) Co-organized (with David Kerr, Texas A&M), a meeting on C*-algebras and set theory, American Institute of Mathematics, January 2012.
- (31) Organized a special session in Set Theory at the Canadian Mathematical Society meeting in Toronto, December 2011.
- (32) Co-organized (with David Kerr, Texas A&M) a concentration week on Set theory and Functional Analysis at the Texas A&M SUMIRFAS, August 2010.
- (33) Co-organized (with J.D. Hamkins, CUNY) special session in Set Theory at the European Logic Colloquium, Wrocław, July 2007.
- (34) Organized Toronto Set Theory Seminar 1997–1999 and 2003–2006.
- (35) Organized Mini-conference in Set Theory at the Fields Institute, March 2005.
- (36) Co-organized, with V. Pestov (University of Ottawa), special session in Gen. Topology and Top. Algebra at the CMS-CAIMS meeting, Dalhousie, June 2004.
- (37) Co-organized, with A. Dow (UNC Charlotte), special session in General Topology at the Spring Topology and Dynamical Systems Conference 2003.
- (38) Co-organized, with A.S. Kechris (Caltech) and G. Hjorth (UCLA), a conference on Descriptive Set Theory, Analysis, and Dynamical Systems, Fields Institute, Oct. 2002.
- (39) Organized a special subsession on the topology of $\beta\mathbb{N}$ at the Summer Topology Conference at CUNY–City College, July 2001.
- (40) Member of the Review Panel at the University Committee on Research Awards, CUNY, 2001/2002.

Invited Addresses.

- (1) Invited speaker at the “Noncommutativity in the North–MikaelFest”, a conference in celebration of Mikael Rørdam’s 65th birthday, June 2024, Gothenburg, Sweden
- (2) Invited speaker at the Sibe Mardešić Colloquium, University of Zagreb, April 24, 2024.
- (3) Invited speaker at the **UCSD Mathematics Department Colloquium**, April 11, 2024.
- (4) Invited speaker at the **Quebec Mathematical Sciences Colloquium**, March 1, 2024.
- (5) Invited speaker at the “C*-Algebras: Tensor Products, Approximation & Classification” meeting in memory of Eberhard Kirchberg, July 2023, in Münster, Germany.

- (6) Invited speaker at the Colloquium of the European Set Theory Society, January 2023 (Zoom).
- (7) Invited speaker at the Oberwolfach meeting on C^* -Algebras, August 2022.⁴
- (8) **Invited tutorial speaker** at the “Model Theory and Applications 2022” conference in Cetraro, Italy, June 2022.
- (9) Invited speaker at the **University of Louisiana at Lafayette** Department of Mathematics **Colloquium**, March 2022 (via Zoom).
- (10) Invited speaker at Institute for Research in Fundamental Sciences (IPM), Tehran, logic webinar, February 2022 (via Zoom).
- (11) Invited speaker at the conference honouring 75th anniversary of the Mathematical Institute of Serbian Academy of Sciences and Arts, October 2021. (via Zoom)
- (12) Invited speaker at the **University of Regina** Department of Mathematics **Colloquium**, September 2021 (via Zoom).
- (13) Invited speaker at the XV Atelier international de theorie des ensembles, Luminy, France, September 2021. (via Zoom)
- (14) Workshop on Cuntz semigroups at the University of Münster, Germany, July 2021 2021. (via Zoom)
- (15) **Invited tutorial speaker** at the “Model Theory and Applications 2021” conference in Cetraro, Italy, July 2021. ⁵
- (16) Workshop on Cuntz semigroups at the University of Münster, Germany, June 22-26, 2020.⁶
- (17) **Invited tutorial speaker** at the “Model Theory and Applications 2020” conference in Cetraro, Italy, August 2020.⁷
- (18) Invited speaker at the Wales MPPM (Mathematical Physics–Physical Mathematics) Zoom seminar, June 2020.
- (19) Invited speaker at the Richard Kadison Memorial Conference, University of Copenhagen, November 2019
- (20) Invited speaker at the **University of Dresden** Department of Mathematics **Colloquium**, October 2019.
- (21) Invited mini-course on Ultrapowers and Operator Algebras at the Mathematical Institute of Serbian Academy of Sciences and Arts, October 2019.
- (22) Invited speaker at the Mathematical Institute of Serbian Academy of Arts and Sciences Lecture Series, October 2019.
- (23) Invited speaker at the XV Atelier international de theorie des ensembles, Luminy, France, September 2019.
- (24) Invited speaker at the workshop on Topology and Measure in Dynamics and Operator Algebras, Banff International Research Station for Mathematical Innovation and Discovery (BIRS), September 2019.
- (25) Invited speaker at the Oberwolfach meeting on C^* -Algebras, August 2019.

⁴Could not make it to the meeting because of a health issue.

⁵Postponed because of COVID-19.

⁶Postponed because of COVID-19.

⁷Postponed because of COVID-19.

- (26) **Invited lecture series** at the Young Mathematicians in C^* -algebras conference, University of Copenhagen, August 2019.
- (27) Invited speaker at the Special Week on Operator Algebras, Research Center for Operator Algebras, East China Normal University, Shanghai, China, June 2019
- (28) Invited speaker at the **University of Vienna** Department of Mathematics **Colloquium**, April 2019.
- (29) Invited speaker at the **UIUC** Department of Mathematics **Colloquium**, October 2018.
- (30) Invited speaker at the **Ohio State University** Department of Mathematics **Colloquium**, September 2018.
- (31) Invited speaker at the ICM2018 Operator algebras satellite conference, Florianopolis, Brazil, July 2018.
- (32) Invited speaker at the 27th International Conference on Operator Theory, Institute of Mathematics of the Romanian Academy and the West University of Timisoara, July 2018.
- (33) **Invited tutorial speaker** at the Young Set Theory Workshop, Bernoulli Center, Lausanne, Switzerland, June 2018.
- (34) Invited speaker at the Great Plains Operator Theory Symposium (GPOTS), Miami University, May–June 2014.
- (35) Invited speaker at the Workshop on Approximation Properties in Operator Algebras and Ergodic Theory, Institute for Pure and Applied Mathematics (IPAM), UCLA, April–May 2018.
- (36) Invited **plenary speaker at the Canadian Mathematical Society Winter Meeting**, University of Waterloo, December 2017.
- (37) Invited speaker at the **Penn State University** Department of Mathematics **Colloquium**, December 2017.
- (38) Invited speaker at the conference “Model theory and operator algebras,” UC Irvine, September 2017.
- (39) Invited speaker at the conference in honour of Simon Thomas’s 60th Birthday, Rutgers University, September 2017.
- (40) Invited speaker at the workshop on Future trends in the classification program for amenable C^* -algebras, Banff International Research Station for Mathematical Innovation and Discovery (BIRS), September 2017.
- (41) Invited speaker at the Barcelona Conference on C^* -algebras: Structure, Classification and Dynamics, CRM Barcelona, June 2017
- (42) Invited plenary speaker at the Canadian Operator Symposium (COSy), Thunder Bay, May 2017
- (43) Invited **Logic Colloquium** speaker, **UC Berkeley** Department of Mathematics, January 2017.
- (44) Invited **Colloquium** speaker, **UC Berkeley** Department of Mathematics, September 2016.
- (45) Invited speaker at the New York Logic Colloquium, October 2016.
- (46) Invited speaker at the Oberwolfach meeting on C^* -Algebras, August 2016.

- (47) Invited speaker, workshop on Operator Algebras and Dynamical Systems, University of Ottawa, May 2016.
- (48) Invited **Logic Colloquium** speaker, **Harvard University**, February 2016
- (49) Invited speaker at the **Dartmouth College** Mathematics Department **Colloquium**, October 2015.
- (50) Invited speaker the Workshop on Banach Algebras and Applications, August 2015, Fields Institute.
- (51) Invited plenary speaker at the 2015 Logic Colloquium, Helsinki, August 2015.
- (52) London Mathematical Society Scheme 2 visitor (Aberdeen, Glasgow, Lancaster), July 2015
- (53) Invited speaker at the North British Functional Analysis Seminar and Scottish Operator Algebras Seminar, Aberdeen, June 2015.
- (54) Invited speaker, Workshop on structure and classification, Münster, April 2014.
- (55) Invited speaker at a special session on Operator Algebras, Canad. Math. Soc. Winter Meeting, University of Waterloo, December 2014.
- (56) Invited speaker at the Rutgers Logic Meeting, Rutgers University, October 2014.
- (57) Invited speaker in the ‘Logic and Foundations’ section (Section 1) at the **International Congress of Mathematicians (ICM)**, Seoul, August 2014
- (58) Invited speaker at the Canadian Operator Symposium (COSy), Fields Institute, June 2014.
- (59) Invited speaker at the Great Plains Operator Theory Symposium (GPOTS), University of Kansas, May 2014.
- (60) Invited **Logic Colloquium** speaker, **Harvard University**, April 2014
- (61) Invited **Evelyn Nelson Lecture** speaker, McMaster University, March 2014
- (62) Invited speaker at the York University Department of Mathematics and Statistics **Colloquium**, January 2014
- (63) Invited speaker at the **Hebrew University** Department of Mathematics **Colloquium**, November 2013
- (64) Invited speaker at the **University of Leipzig** Department of Mathematics **Colloquium**, October 2013
- (65) Invited speaker at the Masterclass on Ergodic Theory and von Neumann Algebras, University of Copenhagen, October 2013.
- (66) Invited participant in the Workshop on Descriptive Set Theory, Erwin Schrödinger Institute, Vienna, October 2013.
- (67) Invited speaker at the Oberwolfach meeting C*-Algebren, August 2013.
- (68) Invited speaker at ‘The structure and classification of nuclear C*-algebras workshop’ at the ICMS, Edinburgh, April 2013.
- (69) Invited speaker at the **UIC** Department of Mathematics **Colloquium**, April 2013.
- (70) Invited speaker at the Oberwolfach meeting on C*-Algebras, Dynamics, and Classification, October 2012.
- (71) Invited speaker at the 12eme Atelier international de theorie des ensembles, Luminy, France, September 2012.
- (72) Invited tutorial speaker at the **Logic Colloquium**, 2012, Manchester, July 2012

- (73) Invited lecturer at summer school in logic, Institute of Mathematical Sciences of National University of Singapore, June/July 2012.
- (74) Invited speaker at the von Neumann conference, Münster, May/June 2012.
- (75) Invited speaker at the NSF/CBMS conference Topological and algebraic regularity properties of nuclear C^* -algebras, University of Louisiana at Lafayette, May 2012.
- (76) Invited tutorial speaker at the Young Set Theory workshop, Luminy, April 2012
- (77) Invited Advance Distinguished Lecture Series, Kansas State University, April 2012.
- (78) Invited speaker at the **Queen's University** Department of Mathematics **Colloquium**, February 2012.
- (79) Invited speaker at a special session on Operator Algebras, Canad. Math. Soc. Winter Meeting, Ryerson University, December 2011.
- (80) Invited speaker at the **McMaster Univeristy** Department of Mathematics **Colloquium**, November 2011.
- (81) Invited speaker at the **University of Waterloo** Department of Mathematics **Colloquium**, November 2011.
- (82) Invited speaker at Conference on C^* -algebras and related topics, RIMS, Kyoto University, September 2011
- (83) Invited speaker at IMS (Singapore) Program on Computational Prospects of Infinity II, Truth and Infinity Workshop, July 2011.
- (84) Invited speaker at IMS (Singapore) Program on Computational Prospects of Infinity II, Set Theory Workshop, July 2011.
- (85) Invited speaker at the Third European Set Theory Conference, at ICMS, Edinburgh, July 2011.
- (86) Invited speaker at the Canadian Operator Algebra Symposium (COSy), Victoria, May 2011.
- (87) Invited speaker at the Oberwolfach meeting on Finite-dimensional approximations of discrete groups, May 2011.
- (88) Invited speaker at the VIG Logic Meeting at UCLA, February 2011.
- (89) Invited speaker at the Oberwolfach Mengenlehre meeting, January 2011.
- (90) Invited speaker at the Workshop on Concentration Phenomenon, Transformation Groups and Ramsey Theory, Fields Institute, October 2010.
- (91) Invited speaker at the 11eme Atelier international de theorie des ensembles, Luminy, France, October 2010.
- (92) Invited speaker at the workshop on Classification of amenable C^* -algebras, Banff International Research Station for Mathematical Innovation and Discovery (BIRS), September 2010.
- (93) Invited speaker at the London Math. Soc. meting, Nottingham, September 2010.
- (94) Invited speaker at the workshop on Groups and group actions in operator algebra theory, University of Ottawa, July 2010.
- (95) Invited speaker at the Oberwolfach C^* -Algebren meeting, March 2010.
- (96) Invited speaker at the **Penn State University** Department of Mathematics **Colloquium**, January 2010.
- (97) Invited mini-course at the workshop on Combinatorial set theory and forcing theory, Research Institute for Mathematical Sciences, Kyoto, November 11–16, 2009.

- (98) Invited speaker at the MAMLS meeting, Rutgers University, October 2009.
- (99) Invited plenary speaker, **Logic Colloquium**, 2009, Sofia. Bulgaria, August 2009.
- (100) Invited plenary speaker at the 11th Asian Logic Conference, Singapore, June 22-27
- (101) Invited speaker at the 2009 Vienna Set Theory Workshop, Erwin Schrödinger Institute, Vienna, June 14–21, 2009
- (102) Invited speaker at a special session on Dynamics of Large Groups and Semigroups, Canad. Math. Soc. Winter Meeting, December 2008, Carlton University, Ottawa.
- (103) Invited three-lecture tutorial at the 10eme Atelier international de theorie des ensembles, Luminy, France, October 2008
- (104) Invited speaker at the Concentration Week on Operator Algebras, Dynamics and Classification, Texas A&M University, August 2008
- (105) Invited speaker at a mini-conference in Set Theory, Institut Henri Poincaré, July 11, 2008
- (106) Invited speaker at the Canadian Operator Algebra Symposium (COSy), Fields Institute, May 2008
- (107) Invited speaker at the Fields workshop on Connes embedding problem, University of Ottawa, May 2008
- (108) Invited speaker at the **Cornell University** Department of Mathematics **Colloquium**, May 2008
- (109) Invited speaker at the Logic and Mathematics 2008 meeting, University of Illinois Urbana–Champaign, April 2008
- (110) Invited workshop leader at the Fifth Appalachian Set Theory workshop at Carnegie Mellon University, February 2008.
- (111) Invited plenary speaker at the Association for Symbolic Logic Winter meeting, San Diego, January 2008.
- (112) Invited speaker at a special session at the Amer. Math. Soc. sectional meeting, Rutgers University, October 2007.
- (113) Invited speaker, First European Set Theory Meeting, Bedlevo, Poland, July 2007.
- (114) Invited tutorial at the 6th Panhellenic Logic Symposium, Volos, Greece, 5-8 July 2007
- (115) Invited speaker, Workshop on Set Theory of the Reals, Gainesville, FLA, May 2007.
- (116) Invited speaker at the Mathematics Department colloquium, Washington University in St. Louis, February 2007.
- (117) Invited speaker at the workshop on Set Theory of the Reals, Gainesville, FLA, May 2007.
- (118) Invited speaker at the 8eme Atelier international de theorie des ensembles, Luminy, France, October 2006.
- (119) Invited speaker at the German Mathematical Society meeting mini-symposium on Set Theory, Bonn, Sept. 18–22, 2006.
- (120) Invited speaker at 10th Prague Topological Symposium, Prague, August 2006.
- (121) Invited speaker at the workshop “Set Theory and Analysis” Torino, 10-12 July, 2006.
- (122) Invited Speaker at the Departmental **Colloquium**, Miami University, Ohio April 2006.
- (123) Invited speaker, South Eastern Logic Symposium, University of Florida, March 2006.

- (124) Invited speaker at the conference in the honour of Menachem Magidor's 60th birthday, UC Irvine, February 2006.
- (125) Invited speaker at the Oberwolfach Mengenlehre meeting, December 2005.
- (126) Invited Speaker at the **Logic Colloquium**, at McMaster University, October 4, 2005.
- (127) Invited talk, Logic seminar, University of Illinois at Urbana–Champaign, May 2005.
- (128) Invited plenary speaker, Association for Symbolic Logic Annual Meeting, Stanford, CA, March 2005.
- (129) Invited semi-plenary speaker at the Spring Topology and Dynamical Systems Conference Berry College, GA, March 2005.
- (130) Invited talk, Erwin Schrödinger International Institute for Mathematical Physics, Vienna, December 2004.
- (131) Invited talk, Kurt Gödel Institute for Mathematical Logic, Vienna, December 2004.
- (132) Invited speaker, special session, Univ. of North Texas Logic Conference, Oct. 2004.
- (133) Invited speaker at the 8eme Atelier international de theorie des ensembles, Luminy, France, September 2004.
- (134) Invited speaker, special session, L.V. Keldysh Centennial, Moscow, Aug. 2004.
- (135) Invited speaker at the Barcelona Conference on Set Theory, September 2003.
- (136) Invited speaker at the Set theory conference, University of Florida, March 2003.
- (137) Invited speaker at the 7eme Atelier international de theorie des ensembles, Luminy, France, September 2002.
- (138) Invited speaker, special session, **Logic Colloquium**, 2002, Münster, Germany, July 2002.
- (139) Invited speaker, special session, Assoc. Symb. Logic annual meeting, Las Vegas, June 2002.
- (140) Invited speaker at the MAMLS meeting, Rutgers University, October 2001.
- (141) Invited speaker at 9th Prague Topological Symposium, Prague, August 2001
- (142) Invited speaker, MSRI Workshop on the Continuum Problem, Berkeley, June 2001.
- (143) Invited speaker at the 6eme Atelier international de theorie des ensembles, Luminy, France, September 2000
- (144) Invited speaker at the **Logic Colloquium**, 2000, Paris, France, July 2000
- (145) Invited speaker at a special session of the Canadian Math. Soc. Meeting, Hamilton, Ontario, June 2000
- (146) Invited speaker at the Oberwolfach Mengenlehre meeting, December 1999
- (147) Invited speaker at the Rutgers University MAMLS meeting, October 1999
- (148) Invited speaker at a special session of the Summer Topology Conference, Long Island, August 1999
- (149) Invited speaker at the Boise Set theory conference, March 1999
- (150) Invited speaker at the Spring Topology conference, Salt Lake City, March 1999
- (151) Invited speaker at a special session of the Canadian Math. Soc. Meeting, Kingston, Ontario, December 1998
- (152) Prize address at the CAGS/CGS/UMI conference, Vancouver, December 1998
- (153) Invited speaker at a special session of the regional Amer. Math. Soc. meeting, Winston–Salem, October 1998

- (154) Invited speaker at the 5eme Atelier international de theorie des ensembles, Luminy, France, September 1998
- (155) Invited speaker at the Set Theory, Analysis, and Their Neighbours Meeting, London, September 1998
- (156) Invited speaker at a special session of the Prague **Logic Colloquium**, , August 1998
- (157) Invited speaker at a special session of the XI Latinoamerican Logic Conference, Merida, Venezuela, July 1998
- (158) Invited speaker at a special session of the XII Summer Topology Conference, Mexico City, June 1998
- (159) Invited speaker at the UCLA Logic Meeting, January 1998
- (160) Invited speaker at the 50th Anniversary of the Mathematical Institute Conference, Belgrade, December 1996

4. GRADUATE SUPERVISIONS

Present positions are indicated only for my former students and postdocs.

- (1) PhD thesis supervisor, Pooyan Goudarzi, 2023–present.
- (2) Masters thesis supervisor, Jiyu (Gates) Wang, 2022–2023.
- (3) PhD thesis co-supervisor, Daniel Calderon-Wilches, 2019–present (University of Toronto).
- (4) Masters thesis supervisor, Daniel Calderon-Wilches, 2018-2019 (currently a PhD student at the University of Toronto).
- (5) PhD thesis supervisor, Najla Manhal (September 2017–present).
- (6) Member of the PhD Supervisory Committee for Feodor Kogan, University of Toronto, 2021–present.
- (7) Member of the PhD Supervisory Committee for Konstantinos Konstantos, 2022–present.
- (8) Member of the PhD Supervisory Committee for Jeffrey Im, University of Toronto, 2016–2022.
- (9) Hosting a visiting PhD student, Shuhei Masumoto (University of Tokyo), on JSPS fellowship (February–April 2014) and FMSP course (October 2015–April 2016).
- (10) PhD thesis co-supervisor (with A. Beraducci, University of Pisa) for Andrea Vaccaro (Marie Skłodowska Curie postdoc at Université Paris Denis Diderot, starting fall 2020) September 2015–2019.
- (11) PhD thesis co-supervisor (with Paul Skoufranis) for Georgios Katsimpas, September 2016–2022.
- (12) Referee for Habilitation thesis of Julien Melleray, Université Lyon 1, October 2014.
- (13) Referee for Habilitation thesis of Luca Motto Ros, Universität Freiburg, July 2014.
- (14) PhD thesis supervisor for Daniel Corder, 2013–2014 (dropped out).
- (15) PhD thesis committee, Paul McKenney, CMU, July 2013 (presently at Google).
- (16) PhD thesis supervisor for Alessandro Vignati, 2012–2017 (Maitre de Conference in Université Paris Diderot since fall 2019).
- (17) PhD thesis supervisor for Martino Lupini (presently a faculty at the Victoria University of Wellington), 2010–2015. **Sacks prize** for the best doctorate in Mathematical

- Logic in 2015 (co-recipient with Omar Ben Neria, UCLA) and 2017 **Franco Montagna prize** for best PhD dissertation in mathematical logic and its applications (Assistant Professor at the University of Wellington, New Zealand, since fall 2018).
- (18) Second referee for the PhD thesis of Philipp Doebler, Universität Münster, February 2010.
 - (19) PhD thesis co-supervisor (with B. Veličković, Université Paris 7) for Brice Minaud, 2009–2013.
 - (20) PhD thesis supervisor for Saeed Ghasemi (presently postdoc at the Institute of Mathematics, Czech Academy of Sciences), 2009–2015.
 - (21) PhD thesis supervisor for Beatriz Zamora-Aviles (presently tenure-stream Lecturer, University of Malta), September 2003–2009.
 - (22) Supervised Master’s Degree survey paper projects for Najla Muhee (fall 2016), Chitra Narayanan (fall 2016), Mayra Montalvo (summer 2008), Natalie Stoyanov (winter 2005).
 - (23) PhD committee member for Natasha May (2009–2013) Neil Roger (2007–2009) and Huilan Li (2005–2007).
 - (24) Jury member, PhD defense of Matteo Viale, Université Paris 6, September 2006. (Viale was awarded **Sacks Prize** for the best doctorate in Mathematical Logic).
 - (25) Dean’s representative at Debora DiCaprio’s PhD thesis defence, April 2004 and Fernando Hernandez-Hernandez’s PhD thesis defence, January 2004.
 - (26) Outside examiner in the defense committee at Richard Carr’s final examination for the Ph.D. degree, Columbia University, April 2000.

Postgraduate supervisions.

- (1) Supervising Fields Institute postdoctoral fellow, David Jekel, 2023-2024.
- (2) Supervising Fields Institute postdoctoral fellow, Xin Ma, 2023-2025.
- (3) Supervising Fields–Ontario Postdoctoral Fellow, Anush, 2023-2025.
- (4) Supervised postdoctoral fellow Saeed Ghasemi, Winter 2021.
- (5) Co-supervised (with Paul Skoufranis) Christopher Schafhauser, York Research Fellow, 2018–2019 (presently Assistant Professor at the University of Nebraska, Lincoln).
- (6) Supervised Bruno de Mendonça Braga, York Research Fellow, 2017–2019 (presently Assistant Professor at the PUC-Rio).
- (7) Co-supervised Christopher J. Eagle (presently Assistant Teaching Professor, University of Victoria), University of Toronto, fall 2015.
- (8) Supervised Tristan Bice (presently faculty at the Cardinal Stefan Wyszyński University, Warsaw, Poland), Fields Institute and York University, 2012–2013.
- (9) Co-supervised (with S. Todorčević and W. Weiss) Assaf Rinot (presently faculty member, Bar-Ilan University, Israel and an **ERC** starting grant recipient), Fields Ontario Postdoctoral Fellow, 2011–2013.
- (10) Supervised Samuel Coskey (presently Associate Professor, Boise State University), Fields Ontario Postdoctoral Fellow, 2010–2012 (presently an Associate Professor at the Boise State University).
- (11) Co-supervised (with J. Steprāns) Michael R. Oliver (presently at Google), fall 2005–winter 2006.

- (12) Co-supervised (with Paul J. Szeptycki) Wiesław Kubis (presently professor at the Institute of Mathematics of the Czech Academy of Sciences), fall 2003–winter 2004.

5. GRADUATE TEACHING EXPERIENCE AT YORK

- (1) Massive C^* -algebras (also offered via the Fields Institute Academy), winter 2021.
- (2) Set theory and C^* -algebras reading course (York), fall 2018.
- (3) Von Neumann Algebras reading course (York), summer 2016.
- (4) Functional Analysis I, fall 2010, fall 2011, fall 2012, winter 2016, winter 2017, winter 2018, winter 2019, winter 2020, fall 2022.
- (5) Forcing and large cardinals (two reading courses), (York) winter 2013.
- (6) Forcing, summer 2010.
- (7) Functional Analysis II, winter 2010, winter 2015, winter 2022.
- (8) Set theory and C^* -algebras, (York) winter 2010 (University of Toronto), summer 2009.
- (9) Set Theory and its Applications, York University, winter 2008.
- (10) Measure Theory, fall 2005, fall 2014, fall 2016, winter 2024.
- (11) Strong Axioms of Infinity reading course, (York) summer 2005.
- (12) General Topology, Math 6540, York University, fall 2004.
- (13) Model Theory reading course, (York) summer 2004.

Other Graduate Teaching Experience.

- (1) A course on applications of model theory to the structure of C^* -algebras, Mathematical Institute of the Serbian Academy of Sciences and Arts, Belgrade, fall 2019.
- (2) Tutorials at the Logic **Colloquium**, NUS, Young Set Theory, Young Mathematicians in C^* -algebras, etc. (see the list of invited addresses).
- (3) Continuous logic and operator algebras, University of Copenhagen, September 2013.
- (4) Selected applications of logic to C^* -algebras, IMS, Singapore, summer 2012.
- (5) Ramsey Theory and the geometry of Banach spaces (co-taught with S. Todorcevic), Fields Institute, fall 2002.
- (6) Mathematical Logic, CUNY Graduate Center, fall 2000.
- (7) Supervised independent study in set theory and forcing for three graduate students at CUNY–Graduate Center, fall 2000.

Undergraduate teaching.

- (1) Supervised a group of three undergraduate students in STEM Fellowship Indicium Competition, Winter 2021.
- (2) Co-supervised (with Bradd Hart, McMaster and Paul Skoufranis, York) Fields summer Undergraduate Research Program on logic of metric structures and free probability, July–August 2018 (these programs involved five undergraduate students from all over the world).
- (3) Supervised NSERC USRA program (Keegan da Silva Barbosa) on ultraproducts of unbounded self-adjoint operators, summer 2016.
- (4) Co-supervised (with Bradd Hart, McMaster) Fields summer Undergraduate Research Program on logic of metric structures and tracial von Neumann algebras, July–August

2011, 2012, 2013 and 2014 (these programmes involved a total of about twenty undergraduate students from all over the world).

- (5) Reading course on C*-algebras and operator theory, summer 2020.
- (6) Math 1021 (Linear Algebra I), F14, F15, F16, F17, F20.
- (7) Math 1022 (Linear Algebra II), W17.
- (8) Math 1025 (Linear Algebra with Applications), W14.
- (9) Math 1019 (Discrete Mathematics for Computer Science), W05, W06, W12, W13.
- (10) Math 1090 (Introduction to Logic for Computer Science), F04, F05, W08.
- (11) Math 1190, summer 2010.
- (12) Math 1300 (Calculus), Y08–09.
- (13) Math 2001 (Real Analysis), F2015, F2020.
- (14) Math 2310 (Multivariate Calculus), W06.
- (15) Math 1510 (Fundamentals of Mathematics) Y10–2011, Y11–12.
- (16) Math 1520 (Calculus, with vectors), F08 W09.
- (17) Math 2090 (Applications of Logic to Discrete Mathematics) W03, W04.
- (18) Math 2221 (Linear Algebra with Applications I) F03.
- (19) Math 3022 (Algebra II), W14.
- (20) Math 3260 (Introduction to Graph Theory) W04, W09, W10, W13, W15, W18, W20.
- (21) Math 4021 (Algebra III), W19
- (22) Math 4160 (Combinatorial Mathematics), W05 and F08.
- (23) Ramsey Theory reading course, summer 2004
- (24) Set Theory reading course, W09, W10.
- (25) Supervised NSERC summer undergraduate research project, summer 2003.

6. EXTERNAL RESEARCH FUNDING

- (1) NSERC Discovery grant, 2024–2029, at \$48,000/year *Note: I am the PI and the only investigator on this grant.*
- (2) NSERC Discovery grant, 2017–2024, at \$37,000/year *Note: I am the PI and the only investigator on this grant.*
- (3) NSERC Discovery grant, 2012–2017, at \$30,000/year *Note: I am the PI and the only investigator on this grant.*
- (4) National Science Foundation DMS-1201454 grant (jointly sponsored by Analysis and Foundations), “Operator algebras and model theory,” 2012–5, \$118,314 total. *Note: The PI was David Sherman.*
- (5) NSERC Discovery grant, 2007–2012, at \$13,000/year *Note: I was the PI and the only investigator on this grant.*
- (6) NSERC Discovery grant, 2003–2007, at \$14,500/year *Note: I was the PI and the only investigator on this grant.*
- (7) CUNY Collaborative Incentive Grant, 2001–2002, at \$25,280US total. *Note: The PI was J.D. Hamkins.*
- (8) Dean’s Divisional Reassigned Time for Research, 4 credits, 2001
- (9) PSC-CUNY Grant #62785-00-31 2001, at \$5000US. *Note: I was the PI and the only investigator on this grant.*

- (10) NSF grant DMS-0070798 2000–2002 at \$23,933US per year. *Note: I was the PI and the only investigator on this grant*
- (11) NSERC Postdoctoral Fellowship 1997/99
- (12) Ontario Graduate Scholarship, University of Toronto 1994/95, 1995/96, 1996/97
- (13) Connaught Scholarship, University of Toronto, 1993/94

7. INTERNAL RESEARCH FUNDING

- (1) York University Research Chair grant, 2020-2024, \$25,000/year.
- (2) York University start-up grant, 2002, at \$10,000CAD

8. PUBLICATIONS

Books.

- (1) *Model theory of C^* -algebras* (with B. Hart, M. Lupini, L. Robert, A. Tikuisis, A. Vignati and W. Winter), **Memoirs of the Amer. Math. Soc.**, **271**, number 1324 (2021) 142 pp.
- (2) *Combinatorial set theory and C^* -algebras*, **Springer Monographs in Mathematics**, Springer, 517 pp, 2019.
- (3) *Analytic quotients: theory of liftings for quotients over analytic ideals on the integers*, Memoirs of the American Mathematical Society, **148**, number 702, (2000) 177 pp.
- (4) *Some Applications of the Method of Forcing*, Yenisei, Moscow (1995) (146 p.) (with S. Todorćević)

Papers in refereed journals.

- (1) *Saturation of reduced products*, (with Ben De Bondt and Alessandro Vignati), arXiv preprint arXiv:2401.12539, 2024.
- (2) *A dichotomy for central sequence algebras* (with I. Hirshberg), arxiv:2311.18771, 2023.
- (3) *Quantum Expanders and Quantifier Reduction for Tracial von Neumann Algebras* (with David Jekel and **Jennifer Pi**), 2023.
- (4) *Coarse equivalence versus bijective coarse equivalence of expander graphs*. (with Baudier, F., Braga, B. D. M., Vignati, A., and Willett, R.) (2023) arXiv preprint arXiv:2307.11529, accepted for publication in Mathematische Zeitschrift.
- (5) *Chain Conditions and the Axiom of Choice*, (with **Jeffrey Marshall-Milne**, arXiv preprint arXiv:2308.11826, 2023
- (6) *Trivial automorphisms of reduced products* (with **Ben de Bondt** and Alessandro Vignati), arXiv:2307.06731, July 2023.
- (7) *Quantifier elimination in II_1 factors*, to appear in the special issue of Münster J. Math. in memory of Eberhard Kirchberg.
- (8) *Hilbert Spaces Without Countable AC*, with Bruce Blackadar and Asaf Karagila, to appear in the special issue of Münster J. Math. in memory of Eberhard Kirchberg.
- (9) *Preservation of elementarity by tensor products of tracial von Neumann algebras*, with Saeed Ghasemi, arXiv preprint arXiv:2304.08437, March 2023.

- (10) *Embeddings of von Neumann algebras into uniform Roe algebras and quasi-local algebras*, (with F. Baudier, B. de Mendonça Braga, A. Vignati, and R. Willett), *J. Funct. Anal.*, to appear.
- (11) *Operator norm localization property for equi-approximable families of projections* (with B. de Mendonça Braga and A. Vignati), *Journal of Noncommutative Geometry*, to appear.
- (12) *Calkin algebra, Kazhdan's property (T), and strongly self-absorbing C^* -algebras*, **Proc. London Math. Soc.**, 127 (6), 1749–1774, 2023.
- (13) *Obstructions to countable saturation in corona algebras*. (with A. Vignati), *Proceedings of the American Mathematical Society* 151 (03), 1285–1300 (2023).
- (14) *Corona Rigidity* (with S. Ghasemi, A. Vaccaro, and A. Vignati), arXiv:2201.11618 February 2022, submitted.
- (15) *Uniform Roe algebras of uniformly locally finite metric spaces are rigid* (with F. Baudier, B. de Mendonça Braga, A. Khukhro, A. Vignati, and R. Willett), **Inventiones Mathematicae**, **230** (3) (2022) 1071–1100.
- (16) *Nonseparable CCR algebras* (with **Najla Manhal**) *International Journal of Mathematics*, **32**, No. 13 (2021) 2150094.
- (17) *Between reduced powers and ultrapowers, II*, (with Saharon Shelah) *Trans. Amer. Math. Soc.*, **375** (2022), 9007–9034.
- (18) *Can you take Akemann-Weaver's \diamond away?*, with **Daniel Calderon**, *Journal of Functional Analysis* **285** (2023) 110017
- (19) *General uniform Roe algebra rigidity* (with B. de Mendonça Braga and A. Vignati) *Annales de l'Institut Fourier* **72** (2022), no. 1, 301–337.
- (20) *Between reduced powers and ultrapowers*, **J. European Math. Soc. (JEMS)**, **25**, 4369–4394.
- (21) *A rigid hyperfinite II_1 factor*, (with Ilan Hirshberg), *Int. Math. Res. Notices (IMRN)*, **24** (2021) 18687–18702.
- (22) *Uniform Roe coronas* (with B. de Mendonça Braga and A. Vignati), *Advances in Mathematics* **389** (2021) 107886 (Note: the paper was submitted to *Advances in Mathematics* in October 2018, before I joined the editorial board.)
- (23) *Embeddings of uniform Roe algebras* (with B. de Mendonça Braga and A. Vignati) *Comm. Math. Physics* **377** (2020), 1853–1882.
- (24) *The Calkin algebra is \aleph_1 -universal* (with I. Hirshberg and A. Vignati), *Israel J. Math.*, **237** 287–309 (2020)
- (25) *Embedding C^* -algebras into the Calkin algebra* (with **G. Katsimpas** and **A. Vaccaro**) *Int. Math. Res. Notices (IMRN)*, **2021** (2021) 8188–8224.
- (26) *On the rigidity of uniform Roe algebras over uniformly locally finite coarse spaces* (with B. de Mendonça Braga) *Trans. AMS* **374** (2021) 1007–1040.
- (27) *Omitting types in logic of metric structures* (with M. Magidor), *Journal of Math. Logic*, **18**, No. 2 (2018), 1–58.
- (28) *Simple AF C^* -algebras not isomorphic to their opposites*, (with I. Hirshberg), **Proc. Natl. Acad. Sci. USA (PNAS)**, **Vol. 114, No. 24**, (2017) 6244–6249.
- (29) *Axiomatizability of the stable rank of C^* -algebras* (with M. Rørdam) *Münster Journal of Mathematics*, **10** (2017) 269–275.

- (30) *A new bicommutant theorem*, Pacific J. Math, **288** (2017) 69–85.
- (31) *The Calkin algebra is not countably homogeneous* (with I. Hirshberg) Proc. Amer. Math. Soc. **144** (2016) 5351–5357
- (32) *Relative commutants of strongly self-absorbing C^* -algebras*, with B. Hart, A. Tikuisis and M. Rørdam, Selecta Math., **23** (2017) 363–387.
- (33) *Quantifier elimination in C^* -algebras*, (with **C.J. Eagle**, E. Kirchberg, and **A. Vignati**, and an appendix by D. Caudillo Amador, B. Hart, J. Kawach, and S. Kim) IMRN **2017.24** (2016) 7580–7606.
- (34) *Fraïssé limits of C^* -algebras* (with **C. Eagle**, B. Hart, **B. Kadets**, **V. Kalashniuk**, and **M. Lupini**), J. Symb. Logic, **81**, (2016) 755–773.
- (35) *Rigidity of continuous quotients* (with S. Shelah), Journal of the Institute of Mathematics of Jussieu **15** (2016) 1–28.
- (36) *Existentially closed II_1 factors* (with I. Goldbring, B. Hart, and D. Sherman), Fund. Math. **233** (2016) 173–196.
- (37) *A nonseparable amenable operator algebra which is not isomorphic to a C^* -algebra* (with Y. Choi and N. Ozawa), Forum of Mathematics Sigma, **2** e2, 12 pp. (2014).
- (38) *Traces, ultrapowers, and the Pedersen-Petersen C^* -algebras* (with T. Bice), Houston J. Math, **41** (2015) 1175–1190.
- (39) *The isomorphism relation for separable C^* -algebras*. (with G.A. Elliott, V. Paulsen, C. Rosenthal, A.S. Toms, and A. Törnquist), Math. Research Letters (MRL) **20** (2013), no. 6, 107–1080.
- (40) *A simple C^* -algebra with finite nuclear dimension which is not Z -stable*, (with **D. Hathaway**, A. Tikuisis and T. Katsura), Münster Journal of Mathematics **7** (2014) 515–528.
- (41) *Nonseparable UHF algebras II: Classification*, (with T. Katsura), Mathematica Scandinavica **117** (2015), 105–125.
- (42) *Omitting types and AF algebras*, (with **K. Carlson**, **E. Cheung**, **A. Gerhardt-Bourke**, B. Hart, **L. Mezuman**, **N. Sequeira**, and **A. Sherman**), Archive for Mathematical Logic **53** (2014), 157–169.
- (43) *Some Calkin algebras have outer automorphisms*, (with **Paul McKenney** and Ernest Schimmerling), Archive for Mathematical Logic **52** (2013) 517–524.
- (44) *Homeomorphisms of Čech-Stone remainders: the zero-dimensional case*, (with **Paul McKenney**), accepted for publication in Proc. Amer. Math. Soc., September 2016.
- (45) *Automorphisms of corona algebras, and group cohomology*, (with Sam Coskey), Trans. Amer. Math. Soc. **366** (2014), no. 7, 3611–3630.
- (46) *Countable saturation of corona algebras*, (with Bradd Hart), C. R. Math. Rep. Acad. Sci. Canada Vol. **35** (2) 2013, pp. 35–56.
- (47) *The descriptive set theory of C^* -algebra invariants*, (with Andrew Toms and Asger Törnquist, and appendix with Caleb Eckhardt), Int. Math. Res. Notices (IMRN) **22** (2013) 5196–5226.
- (48) Trivial automorphisms, with S. Shelah, Israel J. Math. **201** (2014), 701–728.
- (49) *Model theory of operator algebras III: Elementary equivalence and II_1 factors*, with Bradd Hart and David Sherman, Bull. London Math. Soc. **46** (2014) 1–20.

- (50) *Turbulence, orbit equivalence, and the classification of nuclear C^* -algebras*, (with Andrew Toms and Asger Törnquist), *Journal für die reine und angewandte Mathematik (Crelle's Journal)*, **688** (2014) 101–146.
- (51) *Independence of the existence of Pitowsky spin models*, (with M. Magidor), preprint arXiv:1212.0110, December 2012.
- (52) *All automorphisms of all Calkin algebras*, *Math. Research Letters (MRL)* **18** (2011) 489–503.
- (53) *All automorphisms of the Calkin algebra are inner*, *Annals of Mathematics*, **173** (2011) 619–661.
- (54) *Model theory and operator algebras II: Model Theory*, with B. Hart and D. Sherman, *Israel J. Math.*, **201** (2014) 477–505.
- (55) *A dichotomy for the number of ultrapowers*, with S. Shelah, *Journal of Mathematical Logic*, **10** (2010), 45–81.
- (56) *Graphs and CCR algebras*, *Indiana University Mathematics Journal*, **59**, No. 3 (2010), 1041–1056.
- (57) *Model theory and operator algebras I: Stability*, with Bradd Hart and David Sherman, *Bull. London Math. Soc.*, **45** (2013) 825–838.
- (58) *Nonseparable UHF algebras I: Dixmier's problem* (with Takeshi Katsura), *Advances in Mathematics*, **225** (2010), 1399–1430.
- (59) *The relative commutant of separable C^* -algebras of real rank zero*, *Journal of Functional Analysis* **256** (2009), 3841–3846.
- (60) *The relative commutant of $L(H)$ in its ultrapower may or may not be trivial*, (with N.C. Phillips and J. Steprāns), *Mathematische Annalen*, **347** (2010), 839–857.
- (61) *Nonhomogeneity in products of $\beta\mathbb{N}$ -spaces*, *Top. Appl.* **155** (2008) 273–276.
- (62) *Extreme amenability of L_0 , a Ramsey theorem, and Lévy groups*. (with S. Solecki), *Journal of Functional Analysis* **255** (2008) 471–493.
- (63) *Maharam algebras and Cohen reals*, (with Boban Veličković), *Proc. Amer. Math. Soc.*, **135** (2007) 2283–2290.
- (64) *Absoluteness for universally Baire sets and the uncountable I* , (with Paul B. Larson), *Quaderni di Matematica* **17**, (2006) *Set Theory: Recent Trends and Applications*, A. Andretta, ed., 47–92.
- (65) *Von Neumann's problem and large cardinals*, (with Boban Veličković), *Bulletin of the London Math. Society* **38** (2006) 907–912.
- (66) *Borel subgroups of Polish groups*, (with S. Solecki), *Adv. Math.*, **199** (2006), 499–541.
- (67) *A countable dense homogeneous set of size \aleph_1* , (with M. Hrušák and C.A. Martínez Ranero), *Fund. Math.* **186** (2005), 71–77.
- (68) *Four and more*, (with J. Zapletal), *Ann. Pure Appl. Logic* **140** (2006), 3–39.
- (69) *Analytic Hausdorff gaps II: the density zero ideal*, *Israel J. Math.* **154** (2006), 235–246.
- (70) *Between Maharam's and von Neumann's problems*, (with J. Zapletal), *Math. Research Letters (MRL)* **11** (2004), no. 5-6, 673–684.
- (71) *Examples of ε -exhaustive submeasures*, *Fund. Math.* **181** (2004), 257–272.
- (72) *Is $\mathcal{P}(\omega)$ a subalgebra?*, (with A. Dow), *Fund. Math.*, **183** (2004), 91–108.
- (73) *Luzin gaps*, *Trans. Amer. Math. Soc.* **356** (2004), 2197–2239.

- (74) *Two $F_{\sigma\delta}$ ideals*, (with S. Solecki), Proc. Amer. Math. Soc., **131** (2003), 1971–1975.
- (75) *How many Boolean algebras $P(N)/I$ are there?*, Illinois J. Math., **46** (2003) 999–1033.
- (76) *Partition theorems for layered partial semigroups*, (with N. Hindman and J. McLeod), Journal of Combinatorial Theory, Ser. A, **98** (2002) 268–311.
- (77) *Powers of \mathbb{N}^** , Proc. Amer. Math. Soc., **130** (2002) 1243–1246.
- (78) *Dimension phenomena associated with $\beta\mathbb{N}$ spaces*, Top. Appl., **125** (2002) 279–297.
- (79) *Functions essentially depending on at most one variable*, Journal of Combinatorial Theory, Ser. A, **94** (2001) 169–177.
- (80) *Basis problem for turbulent actions II: c_0 -equalities*, Proceedings of The London Mathematical Society, **82** (2001) 1–30.
- (81) *Basis problem for turbulent actions I: Tsirelson submeasures*, Annals of Pure and Applied Logic, **108** (2001) 189–203.
- (82) *Approximate homomorphisms II: Group homomorphisms*, Combinatorica **20** (2000) 47–60.
- (83) *Ideals induced by Tsirelson submeasures*, Fund. Math., **159** (1999) 243–258,
- (84) *Approximate homomorphisms*, Combinatorica, **18** (1998), 335–348.
- (85) *Completely additive liftings*, The Bulletin of Symbolic Logic, **4**, (1998), 37–54.
- (86) *Semiselective coideals*, Mathematika, **45**, (1998), 79–103.
- (87) *OCA and towers in $\mathcal{P}(\mathbb{N})/fin$* , Comm. Math. Univ. Carolinae, **37** (1996), 861–866.
- (88) *Embedding partially ordered sets into ${}^\omega\omega$* , Fund. Math., **151**, (1996), 53–95.
- (89) *A coherent family of partial functions on \mathbb{N}* , Proc. Amer. Math. Soc. **124**, (1996), 2845–2852.

Invited book chapters.

- (1) *Selected applications of logic to classification problem of C^* -algebras*, In: E-recursion, Forcing, and C^* -algebras, edited by C.T. Chong et al., World Scientific 2014, 1–81.
- (2) *The extender algebra and Σ_1^2 absoluteness*, Large cardinals, determinacy, and other topics: The Cabal Seminar, volume IV. (A.S. Kechris, B. Löwe and J. R. Steel, editors), 141–178, Cambridge University Press, 2020
- (3) *The fourth head of $\beta\mathbb{N}$* , in ‘Open Problems in Topology II,’ E. Pearl, ed., Elsevier, (2007) 135–142.

Papers in refereed conference proceedings.

- (1) *Corson reflection* (with M. Magidor), Ann. Pure Appl. Logic **172** (2021) 102908.
- (2) *Logic and operator algebras*, in Proceedings of the International Congress of Mathematicians (**ICM**), Seoul, 2014, vol. 2, Sun Young Jang et al, editors, p. 17–49.
- (3) *Absoluteness, truth and quotients*, in Proceedings on the Workshop on Infinity and Truth (C.T. Chong et al. editors), World Scientific, 2013, 1–24.
- (4) *A dichotomy for the Mackey Borel structure*, Proceedings of the 11th Asian Logic Conference, 86–93, World Sci. Publ., Hackensack, NJ, 2012.
- (5) *Set theory and operator algebras*, (with E. Wofsey) Appalachian Set Theory Workshop (J. Cummings and E. Schimmerling et al, eds), London Math. Soc. Lecture Note Series 406 (2012), 63–120.

- (6) *Absoluteness for universally Baire sets and the uncountable II*, (with Richard Ketchersid, Paul B. Larson and Menachem Magidor), Computational Prospects of Infinity, part II (Chong, C. et al. eds.) (2008) World Scientific, 163–192.
- (7) *A proof of the Σ_1^2 absoluteness theorem*, Advances in Logic (S. Gao, S. Jackson and Y. Zhang, eds.), *Contemporary Mathematics*, **425** (2007) American Mathematical Society, RI., 9–22.
- (8) *Rigidity conjectures*, In: Proceedings of **Logic Colloquium**, 2000, R. Cori et al., editors. (2005), 252–271.
- (9) *Reductions between meager ideals*, Fund. and Applied Math. **11** (2005), 213–219.
- (10) *Analytic Hausdorff gaps*, Set Theory, *Dimacs Series* **58**, (2002) 65–72.
- (11) *Liftings of homomorphisms between quotient structures and finite combinatorics*, In: **Logic Colloquium**, '98, S. Buss, et al., editors. A.K. Peters, Lecture notes in logic, 13, (2000) 173–196.
- (12) *Cauchy nets and open colorings*, 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996), Publications de l'Institut Mathématique, **64** (1998), 146–152.

Editorial boards.

Advances in Mathematics (February 2020–present).

Mathematical Logic Quarterly (January 2017–present).

Canadian Journal of Mathematics and Canadian Mathematical Bulletin (2011–present)

The Bulletin of Symbolic Logic (2006–2011).

(editor, with J. Steprāns, P. Szeptycki, F. Tall, S. Todorcevic, W. Weiss) Fifty years of set theory in Toronto, special issue of Ann. Pure Appl. Logic (APAL), 2019–2021.

Reviews.

- (1) Review of seven papers by G. Debs and J. Saint-Raymond, Bull. Symb. Logic **10** (2004), 430–434.
- (2) Review 'Topics in Topology' by S. Todorcevic, Bull. Symb. Logic, **8**, (2002), 526–528.

9. SERVICE

- (1) Research & Awards Committee, Faculty of Science, September 2023.
- (2) File preparation committee for Pavlos Motakis's application for tenure and promotion (chair), 2023.
- (3) File preparation committee for Paul Skoufranis's application for tenure and promotion (chair), 2019.
- (4) NSERC Banting Postdoctoral Fellowships Selection Committee, fall 2021.
- (5) Pure Mathematics hiring committee, fall 2021.
- (6) Strategic Project and Opportunity Review Team (SPORT) for tier I York Research Chairs, 2020–2021.
- (7) Fields Institute Activities Committee, 2020
- (8) Graduate Executive Committee 2019-2022.
- (9) MA admissions, 2019-2022.
- (10) Pure mathematics hiring committee, fall 2019.

- (11) File preparation committee for Paul Skoufranis's application for tenure and promotion, 2019.
- (12) File preparation committee for Youness Lamzouri's application for tenure and promotion (chair), 2015.
- (13) Departmental Research and Awards committee, 2015–2018.
- (14) Departmental Postdoc Committee, 2015–2018.
- (15) Pure Mathematics Curriculum Committee (chair), 2015–2018.
- (16) Canadian Mathematical Olympiad committee, 2014–present.
- (17) Organizing committee for Science@50 Mathematics event, 2015.
- (18) File preparation committee for Hyejin Ku's application for promotion, 2013.
- (19) Colloquium Committee 2004–2005 and 2012 (chair).
- (20) Analysis hiring committee, winter 2012.
- (21) PhD committee, 2003–2006 and 2009–2013.
- (22) Graduate Executive Committee, 2011–2013.
- (23) File preparation committee for Peter Gibson's application for promotion, 2008.
- (24) Category theory hiring committee, winter 2008.
- (25) Collection of Math 1019 materials for the Engineering Accreditation, winter 2006.
- (26) OGS selection panel, winter 2006.
- (27) Web committee (chair), fall 2005–winter 2006.
- (28) Engineering Programme Accreditation Review, Math 1090, January 2005.
- (29) Tenure and Promotion Committee, Faculty of Arts, September 2004–winter 2006.
- (30) Research Committee, Faculty of Science and Engineering, September 2004–2005.
- (31) White paper/Future of the Mathematics and Statistics Department committee, 2004.
- (32) Winter Camp committee, January 2004.
- (33) Arts and Graduate School representative at the Atkinson 'Analysis and algebra' hiring committee, winter 2004.

Community Service.

- (1) Consultation and discussion with a group of eight students from the "Studiens-tiftung des deutschen Volkes" (German Academic Scholarship Foundation), attending a "Wissenschaftliches Kolleg" (scientific colleague) where Profs. Ralf Schindler and Sandra Müller lead a group working on the topic "How many real numbers are there?", June 17, 2023, Münster.
- (2) Consultation for Quanta magazine on Asperó-Schindler result that MM^{++} implies Woodin's (*), July 2021.
- (3) A York Math Circles talk (a popular math talk aimed at the high school students), November 2021.
- (4) Speaker at the York-Math Circle program for high school students, November 7.
- (5) Science Speakers Bureau talk at MENSA Toronto, April 2016.
- (6) An interview for the Korean Educational Broadcasting System (EBS) on the infinite and paradoxes, August 2015.
- (7) An interview on Alan Turing for CHRY 105.5 FM, February 2015.

- (8) Two 30-minute presentations about Platonic Solids and Pythagorean Theorem in Mme Kirk's grade 2/3 class, Room 2, Palmerston Avenue Public School, Toronto, February 2008 and April 2009.