

Anush Tserunyan

RESEARCH	Rooted in logic and descriptive set theory , my research lies in the nexus of ergodic theory, measured group theory, countable Borel equivalence relations, and graph combinatorics.	
EDUCATION	2013 Jun 14	<i>Ph.D. in Mathematics, University of California, Los Angeles, CA, USA</i> Advisors: Alexander S. Kechris (Caltech), Itay Neeman (UCLA) Thesis [pdf]: <i>Finite generators for countable group actions;</i> <i>Finite index pairs of equivalence relations;</i> <i>Complexity measures for recursive programs</i>
	2007 Jun 3	<i>M.S. in Informatics and Applied Mathematics, 2007, Yerevan State University, Armenia</i>
	2005 Jun 6	<i>B.S. in Informatics and Applied Mathematics, 2005, Yerevan State University, Armenia</i>
ACADEMIC APPOINTMENTS	Main	
	2023 Jun–present	<i>Associate Professor, Mathematics Department, McGill University, Canada</i>
	2020 Aug–2023 May	<i>Assistant Professor, Mathematics Department, McGill University, Canada</i>
	2015 Aug–2020 Aug	<i>Assistant Professor, Mathematics Department, University of Illinois Urbana-Champaign, USA</i>
	2013 Aug–2015 Aug	<i>J.L. Doob Research Assistant Professor, Mathematics Department, University of Illinois Urbana-Champaign, USA</i>
	Visiting	
	2023 Aug 12–26	<i>Simons Junior Professor, Banach International Mathematics Center/IMPAN, Warsaw, Poland</i> Program: <i>Simons Semester “STRUCTURES: set theory, model theory, logic and computer science”</i> [link]
	2018 Jun 3–30	<i>Visiting Fellow, Bernoulli Center, Lausanne, Switzerland</i> Program: <i>Descriptive set theory and Polish groups</i>
	2016 Mar 14–Apr 29	<i>Visiting Fellow, Institut Mittag-Leffler, Djursholm, Sweden</i> Program: <i>Classification of operator algebras: complexity, rigidity, and dynamics</i>
GRANTS	2020–2025	NSERC Discovery Grant RGPIN-2020-07120 Principal Investigator of project “Treeings, quasi-invariance, and ergodic combinatorics” Amount: 145,000 CAD

- 2020–2021 NSERC Discovery Launch Supplement DGECR-2020-00543
 Principal Investigator of project “Treeings, quasi-invariance, and ergodic combinatorics”
 Amount: 12,500 CAD
- 2019–2022 NSF Grant DMS-1855648
 Principal Investigator of project “Trees, quasi-invariance, and ergodic combinatorics”
 Amount: 120,000 USD
- 2015–2018 NSF Grant DMS-1501036
 Principal Investigator of project “Treeable equivalence relations and the use of probability groups in arithmetic combinatorics”
 Amount: 193,371 USD
- 2014–2016 AMS Simons Travel Grant
 Amount: 5,000 USD
- 2006–2007 Armenian National Science and Education Fund Grant
 Investigator of project “On Pairs of Disjoint Matchings of a Graph”
 Principal Investigator: Vahan Mkrtchyan

AWARDS

- 2018–2020 Lincoln Excellence for Assistant Professors Award, College of Liberal Arts and Sciences, University of Illinois Urbana-Champaign
- 2018 N. Tenney Peck Teaching Award in Mathematics, University of Illinois Urbana-Champaign
- 2015 Emil Artin Junior Prize in Mathematics [[Wikipedia](#)]
- 2012–2013 Dissertation Year Fellowship, UCLA
- 2011 Robert Sorgenfrey Distinguished Teaching Award, UCLA
- 2010–2011 Mangasar M. Mangasarian Fellowship for continuing graduate students, UCLA
- 2007 Chancellor’s Prize for incoming graduate students, UCLA
- 2005 Presidential Award “*Best Undergraduate Student in Sciences and Information Technologies*”
 Awarded by a former president of Armenia Robert Kocharyan
- 2004 Anania Shirakatzi Scholarship for excellent studies, Yerevan State University

MATH RESEARCH

Publications

- Benjamin D. Miller and Anush Tserunyan. A ratio ergodic theorem via tiling and uniformly syndetic markers. *Proceedings of the 2021 ETDS Workshop*, accepted, 2023. [[arXiv](#)]
- H. Guo, K. Kaempfen, Z. Mo, S. Qunell, J. Rogge, C. Song, A. Tserunyan, J. Zomback. Pairs of disjoint matchings and related classes of graphs *Involve*, 16-2 (2023), 249–264. [[arXiv](#), doi:[10.2140/involve.2023.16.249](#)]
- Anush Tserunyan. Mixing and double recurrence in probability groups. *Fundam. Math.*, 260 (2023), 77–98. [[arXiv](#), doi:[10.4064/fm225-7-2022](#)]

Anush Tserunyan. Pointwise ergodic theorem for locally countable quasi-mpg graphs. *J. Mod. Dyn.*, 18, 2022, 609–655. [[arXiv](#), doi:[10.3934/jmd.2022019](#)]

Zhengda Mo, Sam Qunell, Anush Tserunyan, and Jenna Zomback. Characterization of saturated graphs related to pairs of disjoint matchings. *Illinois J. Math.*, 66(1):59–77, 2022. [[arXiv](#), doi:[10.1215/00192082-9719963](#)]

Anton Bernshteyn, Michelle Delcourt, and Anush Tserunyan. Independent sets in algebraic hypergraphs. *J. Eur. Math. Soc. (JEMS)*, 24(1):1–35, 2022, published online in 2021. [[arXiv](#), doi:[10.4171/jems/1082](#)]

Anush Tserunyan. A descriptive construction of trees and Stallings’ theorem. In Trends in set theory, volume 752 of *Contemp. Math.*, pages 191–207. Amer. Math. Soc., [Providence], RI, [2020] ©2020. [[arXiv](#), doi:[10.1090/conm/752/15137](#)]

Anton Bernshteyn, Michelle Delcourt, Henry Towsner, and Anush Tserunyan. A short nonalgorithmic proof of the containers theorem for hypergraphs. *Proc. Amer. Math. Soc.*, 147(4):1739–1749, 2019. [[arXiv](#), doi:[10.1090/proc/14368](#)]

Anush Tserunyan. A Ramsey theorem on semigroups and a general van der Corput lemma. *J. Symb. Log.*, 81(2):718–741, 2016. [[arXiv](#), doi:[10.1017/jsl.2015.37](#)]

Anush Tserunyan. Finite generators for countable group actions in the Borel and Baire category settings. *Adv. Math.*, 269:585–646, 2015. [[arXiv](#), doi:[10.1016/j.aim.2014.10.013](#)]

Anush Tserunyan. Characterization of a class of graphs related to pairs of disjoint matchings. *Discrete Math.*, 309(4):693–713, 2009. [[arXiv](#), doi:[10.1016/j.disc.2008.01.004](#)]

V. V. Mkrtchyan, V. L. Musoyan, and A. V. Tserunyan. On edge-disjoint pairs of matchings. *Discrete Math.*, 308(23):5823–5828, 2008. [[arXiv](#), doi:[10.1016/j.disc.2007.09.061](#)]

Preprints

Ruiyuan Chen, Antoine Poulin, Ran Tao, and Anush Tserunyan. Tree-like graphings, wallings, and median graphings of equivalence relations. 2023+. [[arXiv](#)]

Ruiyuan Chen, Grigory Terlov, and Anush Tserunyan. Nonamenable subforests of multi-ended quasi-mpg graphs. 2022+. [[arXiv](#)]

Anush Tserunyan and Jenna Zomback. A backward ergodic theorem along trees and its consequences for free group actions. 2022+. Submitted. [[arXiv](#)]

Benjamin D. Miller and Anush Tserunyan. Edge sliding and ergodic hyperfinite decomposition. 2017+. In revision. [[arXiv](#)]

EXPOSITORY
WRITING

Course notes

A. Tserunyan, *Introduction to Descriptive Set Theory*, semester-long graduate course notes [[pdf](#)]

A. Tserunyan, *Mathematical Logic*, semester-long graduate course notes [[pdf](#)]

A. Tserunyan, *A quick introduction to basic set theory* [[pdf](#)]

A. Tserunyan, *Topics in logic and applications*, three-day course notes for advanced undergraduates [[pdf](#)]

Reviews

A review of “C. T. Conley and B. D. Miller. A bound on measurable chromatic numbers of locally finite Borel graphs, *Math. Research Letters*, vol. 23, no. 6 (2016), pp. 1633–1644”, *The Bulletin of Symbolic Logic*, vol. 23 (2017), no. 3, pp. 334–336 [[pdf](#), [doi](#)]

INVITED TALKS AND LECTURES

Plenary conference talks

- 2024 Jan 6–7 [SUMM 2024](#), UQÀM, Montréal, Canada
- 2021 Jun 21–22 2021 Chapel Hill Ergodic Theory Workshop : Global Online Edition, North America
- 2019 Jul 1–5 [could not go] The 7th European Set Theory Conference, Erwin Schrödinger Institute, Vienna, Austria
- 2018 Jul 23–28 Logic Colloquium 2018, Udine, Italy
- 2017 Jun 18–24 The 41st Summer Symposium in Real Analysis, The College of Wooster, OH, USA
- 2015 Mar 25–28 The North American Annual Meeting of the Association for Symbolic Logic, UIUC, Urbana-Champaign, IL, USA

General mathematics colloquia

- *2024 May 1 Mathematics Colloquium, University of Chicago, USA
- 2024 Feb 14 Mathematics Colloquium, University of Toronto, Canada
- 2023 Jan 27 Evelyn Nelson Memorial Lecture [[link](#)], McMaster University, Canada
- 2022 Nov 18 Mathematics Colloquium [[link](#)], Queen’s University, Canada
- 2022 Sep 23 Colloque des Sciences Mathématiques du Québec, CRM–ISM, Montréal, Canada
- 2022 Mar 22 Mathematics Colloquium [[link](#)], University of Haifa, Israel (virtual)
- 2021 Jun 14 Pure Mathematics Seminar, University of East Anglia, UK (virtual)
- 2021 May 1 & 15 Yerevan Mathematics Colloquium, Armenia (virtual)
- 2021 Mar 16 Mathematics Colloquium, Chulalongkorn University, Thailand (virtual)
- 2020 Oct 29 Mathematics Colloquium, University of Virginia, USA (virtual)
- 2019 Mar 29 Millican Colloquium, University of North Texas, USA
- 2018 Sep 14 Mathematics Colloquium, University of Illinois at Chicago, USA
- 2016 Sep 30 Mathematics Colloquium, Queen’s University, Canada
- 2016 Feb 25 Mathematics Colloquium (Oliver Club), Cornell University, USA
- 2015 Nov 12 Mathematics Colloquium, Western Illinois University, USA

Selected and recent seminars

- *2024 Apr 4 Algebra and Combinatorics Seminar, Leipzig University, Leipzig, Germany
- 2023 Feb 10 Nankai Logic Colloquium, Nankai University, China (virtual)
- 2022 Mar 2 Analysis Seminar, University of Waterloo, Canada (virtual)

2021 Dec 8	Models and Sets Seminar, Leeds University, UK (virtual)
2021 Nov 11	Dynamical Systems Seminar, KTH Royal Institute of Technology, Stockholm, Sweden (virtual)
2021 Jul 6	Damien Gaboriau’s “Groupe de Travail: Actions !”, École Normale Supérieure de Lyon, France (virtual)
2021 Jun 26	Functional Analysis, Operator Theory, and Dynamical Systems Seminar, Leipzig, Germany (virtual)
2021 May 26	Séminaire de Logique Lyon-Paris, France (virtual)
2021 May 11	Ergodic Theory and Dynamical Systems Seminar, University of Warwick, UK (virtual)
2021 Apr 7	Groups and Dynamics Seminar, Texas A&M University, USA (virtual)
2021 Apr 1	Pacific Dynamics Seminar (virtual)
2021 Mar 19	Set Theory Seminar, University of Toronto, Canada (virtual)
2021 Feb 2	Logic Seminar, Carnegie Mellon University, USA (virtual)
2021 Jan 20	Geometric Group Theory Seminar, McGill University, Canada (virtual)
2021 Jan 15	Analysis Seminar, McGill University, Canada (virtual)
2020 Nov 4	Logic Seminar, Caltech, USA (virtual)
2020 Oct 30	Logic Colloquium, UC Berkeley, USA (virtual)
2020 Oct 9	Logic Seminar, Cornell University, USA (virtual)
2020 Jun 18	Research Seminar, Kurt Gödel Research Center for Mathematical Logic, University of Vienna, Austria (virtual)
2020 Jun 4	Séminaire d’Algèbres d’Opérateurs, Institut de mathématiques de Jussieu – Paris Rive Gauche, Université Paris Diderot, France (virtual)
2018 Nov 15	Functional Analysis Seminar, University of California at San Diego, USA
2018 Nov 9	UCLA–Caltech Cabal Seminar, University of California, Los Angeles, USA
2018 Oct 18	Logic Seminar, Carnegie Mellon University, USA
2018 Sep 4	Groups and Dynamics Seminar, Texas A&M, USA
2018 Jul 30	Combinatorics Seminar, Rényi Institute of Mathematics, Budapest, Hungary
2017 Jun 2	UCLA–Caltech Cabal Seminar, University of California, Los Angeles, USA
2017 May 30	Logic Seminar, California Institute of Technology, USA
2016 May 12	Research Seminar, Kurt Gödel Research Center for Mathematical Logic, University of Vienna, Austria

Mini-courses and tutorials

- *2024 Jun 17–21 “Young Set Theory” Workshop [\[link\]](#) within the “Measurable Combinatorics” Semester [\[link\]](#), Erdős Center, Budapest, Hungary
Tutorial: *TBA*

- *2024 May 14–17 2024 Association of Symbolic Logic Annual Meeting [\[link\]](#), Iowa State University, USA
Tutorial: *How a logician proves pointwise ergodic theorems* (3 lectures, 50-minute)
- 2023 Aug 14–18 “Descriptive Set Theory and Dynamics” Workshop [\[link\]](#) within the Simons Semester “STRUCTURES: set theory, model theory, logic and computer science” [\[link\]](#), Banach Center, Warsaw, Poland
Tutorial: *The geography of amenable subrelations of acyclic graphs and beyond* (3 lectures, 1-hour)
- 2022 Jul 25–28 C*-dynamics and Set Theory School in Paris 2022 [\[link\]](#), Paris, France
Mini-course: *Ergodic theorems and tilings* (4 lectures, 1-hour)
- 2021 Jun 29–Aug 27 Undergraduate Summer Program on Finite State Markov Chains [\[link\]](#), Institute of Mathematics, Yerevan, Armenia (virtual)
- 2019 Jan 12–19 The 47th Winter School in Abstract Analysis [\[link\]](#), Czech Republic
Mini-course: *Countable Borel equivalence relations, ergodic theory, and measured group theory* (3 lectures, 1-hour)
- 2017 May 5–11 The 15th Annual Spring Institute: Noncommutative Geometry and Operator Algebras [\[link\]](#), Vanderbilt University, USA
Mini-course: *Countable Borel equivalence relations, ergodicity, and turbulence* (3 lectures, 1-hour long)
- 2016 Jun 6–10 Undergraduate Summer School [\[link\]](#) within Thematic Program on Model Theory, University of Notre Dame, USA
Mini-course: *Introduction to Model Theory II* (4 lectures, 1-hour long)
- 2013, Jul 14–Aug 3 2013 Undergraduate Logic Summer School [\[link\]](#), Logic Center, Univ. of California, Los Angeles
Mini-course: *Descriptive Set Theory* (15 lectures, 1-hour long)
- 2012, Jun 24–Jul 14 2012 Undergraduate Logic Summer School [\[link\]](#), Logic Center, Univ. of California, Los Angeles
Mini-course: *First Order Logic and Gödel’s Incompleteness Theorem* (15 lectures, 1-hour long)

Conference talks (non-plenary)

- *2025 Jan 12–17 “Set Theory” Workshop, Oberwolfach, Germany
- *2024 Sep 16–20 European Set Theory Conference 2024 [\[link\]](#), University of Münster, Germany
- *2024 Sep 9–13 “Probability, Dynamics, and the Geometry of Groups” Conference [\[link\]](#), University of Münster, Germany
- 2022 Nov 28–Dec 2 “Group Actions: Dynamics, Measure, Topology” Workshop [\[link\]](#), University of Münster, Germany
- 2021 Jun 15 “Expanding Dynamics XIII: The School”, International Online Workshop
- 2021 Feb 23 “Expanding Dynamics IX”, international online workshop
- 2019 Jul 8–12 “Measurability, Ergodic Theory and Combinatorics” Workshop, Warwick Mathematics Institute, Warwick, UK

2019 Jun 4–6	“Boundaries of Random Walks and Applications”, Bowdoin College, Brunswick, ME, USA
2019 Feb 1–3	20 th Very Informal Gathering (VIG) celebrating the 50th anniversary of the start of the “cabal”, UCLA Logic Center, Los Angeles, CA, USA
2019 Jan 12–19	The 47 th Winter School in Abstract Analysis, Svratka, Czech Republic
2018 Sep 1–3	“Group Theory and Dynamical Systems” Workshop, UT Austin, Austin, TX, USA
2018 Jul 14–21	“Ramsey Theory in Logic, Combinatorics and Complexity” Workshop, Bertinoro (Forlì-Cesena), Italy
2018 Jun 12	Descriptive Set Theory Day, Turin, Italy
2018 Apr 21	Wabash Extramural Modern Analysis Seminar, Wabash College, Crawfordsville, IN, USA
2018 Feb 5–9	“Borel Combinatorics and Ergodic Theory” Conference, Bernoulli Center, Lausanne, Switzerland
2018 Jan 10–13	First Mexico/USA Logic Fest, Instituto Tecnológico Autónomo de México, Mexico City, Mexico
2017 Sep 15–17	Simon Fest, Rutgers University, NJ, USA
2017 Jun 5–9	Concentration Week on Ergodic Theory and Operator Algebras, Texas A&M University, TX, USA
2017 May 5–11	The 15 th Annual Spring Institute: Noncommutative Geometry and Operator Algebras, Vanderbilt University, TN, USA
2017 Feb 11–19	“Set Theory” Workshop, Oberwolfach, Germany
2016 Dec 12–16	“Current Trends in Descriptive Set Theory” Workshop, Erwin Schrödinger Institute for Mathematics and Physics, Vienna, Austria
2016 Oct 20–23	“Set Theory” Workshop, University of Illinois at Chicago, IL, USA
2016 Sep 11–16	“Set Theory and Its Application in Topology” Workshop, Banff International Research Station, Oaxaca, Mexico
2016 Aug 38–Sep 3	“Measured Group Theory” Workshop, Oberwolfach, Germany
2016 Jul 31–Aug 6	“Set Theory” Special Session, Logic Colloquium 2016, Leeds, UK
2016 Mar 23	“Classification and Set Theory” Workshop, Institut Mittag-Leffler, Sweden
2015 Oct 30–Nov 1	Midwest Dynamical Systems Meeting, Ohio State University, OH, USA
2015 Aug 2–4	36 th Semiannual Wasatch Topology Conference, Park City, UT, USA
2015 Jul 19–24	“Combinatorics Meets Ergodic Theory” Workshop, Banff International Research Centre, Banff, AB, Canada
2015 Mar 7	3 rd Annual Midwest Women in Mathematics Symposium, Dominican University, IL, USA
2015 Feb 28–Mar 1	Spring Conference in Set Theory and Computability, University of Florida, Gainesville, FL, USA
2015 Jan 10–Feb 1	18 th Very Informal Gathering (VIG) in honor of Tony Martin, UCLA Logic Center, Los Angeles, CA, USA

2014 June 2–6	“Logic, Dynamics, and Interactions 2”, University of North Texas, Denton, TX, USA
2014 May 24–28	“Ramsey Theory” Conference, University of Denver, Denver, CO, USA
2014 Apr 5–6	AMS Western Spring Sectional Meeting, University of New Mexico, Albuquerque, NM, USA
2014 Jan 12–18	“Set Theory” Workshop, Oberwolfach, Germany
2013 Oct 5–6	AMS Fall Southeastern Sectional Meeting, University of Louisville, Louisville, KY, USA
2013 May 8–11	ASL North American Annual Meeting, Waterloo, ON, Canada
2013 Mar 1–3	AMS Spring Southeastern Sectional Meeting, University of Mississippi, Oxford, MS, USA
2012 Oct 6–7	MAMLS Conference, Rutgers University, New Brunswick, NJ, USA
2012 Sep 10–14	“Applications to Operator Algebras” Workshop, Fields Institute, Toronto, ON, Canada

RESEARCH
WORKSHOPS
AND VISITS

Research workshops

*2023 Apr 8–12	AIM SQuaREs “Measured group theory and combinatorics”, part 2/3, American Institute of Mathematics, Pasadena, CA, USA
*2023 Mar 11–15	AIM SQuaREs “Containers from different angles”, part 2/3, American Institute of Mathematics, Pasadena, CA, USA
2022 Oct 10–14	AIM SQuaREs “Containers from different angles”, part 1/3, American Institute of Mathematics, San Jose, CA, USA
2021 Aug 9–13	AIM SQuaREs “Measured group theory and combinatorics”, part 1/3, American Institute of Mathematics, San Jose, CA, USA
2022 Jun 27–Jul 1	“Descriptive Graph Theory” Workshop, American Institute of Mathematics, San Jose, CA, USA
2017 Aug 14–18	“Nonstandard methods in combinatorial number theory” Workshop, American Institute of Mathematics, San Jose, CA, USA

Research visits

*2024 Apr 1–5	Hosts: Łukasz Grabowski and Felix Pogorzelski, Leipzig University, Leipzig, Germany
2018 Oct 29–Nov 25	Host: Alexander Kechris, Caltech, Pasadena, CA, USA
2018 Oct 15–21	Host: Clinton Conley, Carnegie Mellon University, Pittsburgh, PA, USA
2018 Sep 3–11	Host: Robin Tucker-Drob, Texas A&M, College Station, TX, USA
2018 Aug 29–Sep 1	Hosts: Lewis Bowen and Kate Juschenko, University of Texas, Austin, TX, USA
2018 Jul 28–Aug 1	Host: Miklós Abért, Rényi Institute of Mathematics, Budapest, Hungary
2017 Jun 1–4	Host: Andrew Marks, UCLA, Los Angeles, CA, USA
2017 May 27–Jun 1	Host: Alexander Kechris, Caltech, Pasadena, CA, USA
2016 Dec 4–11	Host: Benjamin Miller, Kurt Gödel Research Center for Mathematical Logic, University of Vienna, Vienna, Austria
2016 Jun 31–Jul 9	Host: Damien Gaboriau, École Normale Supérieure de Lyon, Lyon, France

2016 May 1–13	Host: Benjamin Miller, Kurt Gödel Research Center for Mathematical Logic, University of Vienna, Vienna, Austria
2016 Feb 21–26	Host: Justin Moore, Cornell University, Ithaca, USA

MENTORSHIP **Postdocs**

2022 Aug–2023 Aug	<i>Konrad Wróbel</i> , CRM-ISM postdoctoral fellow, Centre de Recherches Mathématiques
2022 Aug–2023 Aug	<i>Samuel Mellick</i> , Math. & Stats. Dept., McGill University
2021 Sep–2022 Aug	<i>Ruiyuan (Ronnie) Chen</i> , CRM-SIMONS postdoctoral fellow, Centre de Recherches Mathématiques
2018 Aug–2021 Aug	<i>Ruiyuan (Ronnie) Chen</i> , J.L. Doob Research Assistant Professor, Math. Dept., Univ. of Illinois Urbana-Champaign

Ph.D. students

2022 Jun–present	<i>Antoine Poulin</i> , Math. & Stats. Dept., McGill University
2020 Aug–2023 Aug	<i>Matthew Bowen</i> , Math. & Stats. Dept., McGill University
2019 Jan–2023 May	<i>Grigory Terlov</i> , Math. Dept., Univ. of Illinois Urbana-Champaign
2017 Jul–2022 Dec	<i>Dakota Ihli</i> , Math. Dept., Univ. of Illinois Urbana-Champaign
2018 May–2022 May	<i>Jenna Zomback</i> , Math. Dept., Univ. of Illinois Urbana-Champaign
2015 Aug–2018 May	<i>Anton Bernshteyn</i> , Math. Dept., Univ. of Illinois Urbana-Champaign

M.Sc. students

*2024 May–2025 Aug	<i>Alexandra Bell</i> , Math. & Stats. Dept., McGill University
*2024 May–2025 Aug	<i>Tasmin Chu</i> , Math. & Stats. Dept., McGill University
2024 Jan–2025 Aug	<i>Owen Rodgers</i> , Math. & Stats. Dept., McGill University
2021 Sep–2023 Aug	<i>Ran Tao</i> , Math. & Stats. Dept., McGill University
2017 Jul–2018 May	<i>Wei Dai</i> , Math. Dept., Univ. of Illinois Urbana-Champaign

Undergraduates

2023 Summer	<i>Alexandra Bell</i> , <i>Owen Rodgers</i> , research project “Measure-class preserving transformations and Kakutani’s criterion”, Math. & Stats. Dept., McGill University
2021 Fall	<i>Gabriel Levrel</i> (Math 470), <i>Sam Mayo</i> (Math 470), <i>Thomas Buffard</i> (Math 410), study/research project “Infinite games and Borel determinacy”, Math. & Stats. Dept., McGill University
2021 Winter	<i>Ran Tao</i> (Math 480), reading course “Descriptive Set Theory and Applications”, Math. & Stats. Dept., McGill University
2019 Jan–2020 May	Faculty Mentor of the project “Pairs of Disjoint Matchings” at the Illinois Geometry Lab , Math. Dept., Univ. of Illinois Urbana-Champaign

TEACHING **Graduate courses**

2023 Fall	<i>Advanced Real Analysis</i> , Math 564, McGill University
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2022 Fall	(Topics) <i>Descriptive Set Theory</i> , Math 595, McGill University
2022 Winter	(Topics) <i>Ergodic Theory and Measured Group Theory</i> , Math 594/740, McGill University
2019 Fall	<i>Descriptive Set Theory</i> , Math 574, Univ. of Illinois Urbana-Champaign
2019 Spring	(Topics) <i>Countable Borel Equivalence Relations</i> , Math 595, Univ. of Illinois Urbana-Champaign
2018 Spring	<i>Set Theory</i> , Math 574–ST, Univ. of Illinois Urbana-Champaign
2017 Fall	<i>Mathematical Logic</i> , Math 570, Univ. of Illinois Urbana-Champaign
2017 Spring	<i>Real Analysis</i> , Math 540, Univ. of Illinois Urbana-Champaign
2016 Fall	<i>Model Theory</i> , Math 571, Univ. of Illinois Urbana-Champaign
2015 Fall	<i>Mathematical Logic</i> , Math 570, Univ. of Illinois Urbana-Champaign
2015 Spring	(Topics) <i>Classification in Ergodic Theory</i> , Math 595, Univ. of Illinois Urbana-Champaign
2014 Fall	<i>Mathematical Logic</i> , Math 570, Univ. of Illinois Urbana-Champaign
2014 Spring	<i>Descriptive Set Theory</i> , Math 574–DST, Univ. of Illinois Urbana-Champaign

Undergraduate courses

2024 Spring	<i>Mathematical Logic: Model Theory & Computability</i> , Honors Courses in Math , an outreach (voluntary) program in Armenia of the Armenian Society Of Fellows
2024 Winter	<i>Honours Algebra 2</i> , Math 251, McGill University
2023 Fall	<i>Mathematical Logic</i> , Math 318, McGill University
2023 Spring	<i>Metric spaces and topology</i> , Honors Courses in Math , an outreach (voluntary) program in Armenia of the Armenian Society Of Fellows
2022 Fall	<i>Honours Analysis 1</i> , Math 254, McGill University
2022 Winter	<i>Honours Complex Variables</i> , Math 249, McGill University
2021 Fall	<i>Mathematical Logic</i> , Math 318, McGill University
2021 Summer	<i>Finite state Markov chains</i> , Honors Courses in Math , an outreach (voluntary) program in Armenia of the Armenian Society Of Fellows
2021 Winter	<i>Algebra 2: Linear Algebra</i> , Math 236, McGill University
2020 Fall	<i>Mathematical Logic</i> , Math 318, McGill University
2019 Spring	<i>Set Theory and Topology</i> , Math 432, Univ. of Illinois Urbana-Champaign
2017 Fall	<i>Fundamental Mathematics (Honors)</i> , Math 347H, Univ. of Illinois Urbana-Champaign
2017 Spring	<i>Set Theory and Topology</i> , Math 432, Univ. of Illinois Urbana-Champaign
2015 Fall	<i>Fundamental Mathematics</i> , Math 347, Univ. of Illinois Urbana-Champaign
2014 Fall	<i>Elementary Real Analysis</i> , Math 444, Univ. of Illinois Urbana-Champaign
2013 Fall	<i>Applied Linear Algebra</i> , Math 415, Univ. of Illinois Urbana-Champaign
2011 Fall	<i>Calculus of Several Variables (Honors)</i> , Math 32AH, Univ. of California, Los Angeles

SERVICE

Editorial

2024 Feb–present	<i>Editor</i> , Journal of Logic & Analysis , Springer
2019 Jan–present	<i>Editor</i> , Mathematical Logic Quarterly , Wiley
2017 Dec–present	<i>Editor</i> , Archive for Mathematical Logic , Springer

Grant panels

NSF panels: twice

Refereeing

Discrete Mathematics (Elsevier)

Ergodic Theory and Dynamical Systems (Cambridge University Press)

Fundamenta Mathematicae (Polish Academy of Sciences)

Journal of the AMS (American Mathematical Society)

Journal of the EMS (European Mathematical Society)

Journal of Symbolic Logic (Association for Symbolic Logic)

Proceedings of the AMS (American Mathematical Society)

Notices of the AMS (American Mathematical Society)

Studia Mathematica (Polish Academy of Sciences)

Conference and workshop organization

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| 2023 Aug 21–25 | “Descriptive Set Theory and Dynamics” Conference [link] within the Simons Semester “STRUCTURES: set theory, model theory, logic and computer science”, Banach Center, Warsaw, Poland [link] |
| 2023 May 22–26 | Workshop “Measured Group Theory, Stochastic Processes on Groups, and Borel Combinatorics”, Centre International de Rencontres Mathématiques, Luminy, France [link] |
| 2023 Mar 20–24 | “Borel and Measurable Combinatorics in Algebra and Dynamics” Workshop [link] within the Thematic Program “Set Theoretic Methods in Algebra, Dynamics and Geometry”, Fields Institute, Toronto, Canada [link] |
| 2023 Jan–Jun | Special semester on “Geometric Group Theory” [link] and the Workshop “Measured Group Theory” (Mar 6–17) [link] within it, Centre de Recherches Mathématiques, Montréal, Canada |
| 2022 Mar 27–Apr 1 | Banff Workshop “Interactions between Descriptive Set Theory and Smooth Dynamics”, Banff International Research Station, Banff, Canada [link] |
| 2022 Feb 13–19 | Oberwolfach Mini-workshop 2207b “Descriptive Combinatorics, LOCAL Algorithms and Random Processes”, Mathematical Research Institute of Oberwolfach, Germany [link] |
| 2022 Jan 16–22 | Oberwolfach Workshop 2203 “Groups and Dynamics: Topology, Measure, and Borel Structure”, Mathematical Research Institute of Oberwolfach, Germany [link] |
| 2021 Jun 22–25 | Special session “Set Theory”, <i>ASL Annual Meeting 2021</i> , USA (virtual) [link] |
| 2021 Jan 8–9 | Plenary talks, <i>ASL Winter Meeting 2021 with the JMM</i> , Washington DC, USA (virtual) [link] |
| 2020 Dec 4–8 | Special session “Logic and its applications”, <i>CMS Winter Meeting 2020</i> , Montréal, Canada (virtual) [link] |
| 2020 Dec 3 | Mini-course “The Lovász Local Lemma and its applications in ergodic theory and descriptive set theory” by Anton Bernshteyn, <i>CMS Winter Meeting 2020</i> , Montréal, Canada (virtual) [link] |
| 2018 May 16–19 | Special session “Set Theory”, <i>ASL North American Annual Meeting 2018</i> , Macomb, IL, USA [link] |

2018 Jan 10–13 Plenary talks, *ASL Winter Meeting 2018 with the JMM*, San Diego, CA, USA [[link](#)]

Seminar organization

2020 Fall–present *Descriptive Dynamics and Combinatorics Seminar*, McGill University
 2021 Mar–Dec *Yerevan Mathematics Colloquium*, Virtual
 2018 Fall–2020 Spr *Descriptive Set Theory Seminar*, Univ. of Illinois Urbana-Champaign
 2018 Spr *Operator Algebra and Descriptive Set Theory Learning Seminar*, Topic: cost and ℓ^2 -Betti numbers, Univ. of Illinois Urbana-Champaign
 2015 Fall–2020 Spr *Logic Seminar*, Univ. of Illinois Urbana-Champaign
 2015 Fall–2018 Spr *Model Theory and Descriptive Set Theory Learning Seminar*, Univ. of Illinois Urbana-Champaign
 2014 Spr *Descriptive Ergodic Theory Learning Seminar*, Univ. of Illinois Urbana-Champaign
 2009 Spr *Descriptive Complexity Theory Learning Seminar*, Univ. of California, Los Angeles

Committees

2023–24 Chair Advisory, Math. & Stats., McGill University
 2022–23 Undergraduate Affairs, Math. & Stats., McGill University
 2021–22 Undergraduate Affairs, Math. & Stats., McGill University
 2020–21 Undergraduate Affairs, Math. & Stats., McGill University
 2018–19 Strategic Planning, Mathematics, Univ. of Illinois Urbana-Champaign
 2018–19 Graduate Recruiting and Application Screening, Mathematics, Univ. of Illinois Urbana-Champaign
 2018–19 Comprehensive Exams: Mathematical Logic (Math 570), Mathematics, Univ. of Illinois Urbana-Champaign
 2017–18 Postdoc Search, Mathematics, Univ. of Illinois Urbana-Champaign
 2017–18 Graduate Recruiting and Application Screening, Mathematics, Univ. of Illinois Urbana-Champaign
 2017–18 Comprehensive Exams: Mathematical Logic (Math 570), Mathematics, Univ. of Illinois Urbana-Champaign
 2016–17 Honors Courses, Mathematics, Univ. of Illinois Urbana-Champaign
 2016–17 Comprehensive Exams: Real Analysis (Math 540), Mathematics, Univ. of Illinois Urbana-Champaign
 2016–17 Comprehensive Exams: Mathematical Logic (Math 570), Mathematics, Univ. of Illinois Urbana-Champaign
 2015–16 Postdoc Search, Mathematics, Univ. of Illinois Urbana-Champaign
 2015–16 Comprehensive Exams: Mathematical Logic (Math 570), Mathematics, Univ. of Illinois Urbana-Champaign