

Jing Zhang

Present Address

Department of Mathematics, University of North Texas,
225 Avenue E, Denton, Texas 76201, USA

Homepage

<https://jingjzhang.github.io>

Research Interests Infinite combinatorics, Ramsey theory, Model theory, Set theoretic topology, Applications of set theory.

Education

PhD in Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA, Aug 2014-May 2019. Advisor: James Cummings

B.S. in Mathematics, minor in Computer Science, National University of Singapore, Singapore, 2010-2014

Employment

University of North Texas, Assistant Professor, 2025-present.

University of Toronto, postdoctoral fellow, 2022-2025. Host: Stevo Todorcevic and Spencer Unger

Israel Academy of Humanities and Sciences Foreign postdoctoral fellow, Bar-Ilan University, Israel, 2019-2022. Host: Assaf Rinot

Teaching Experience

Course instructor, University of North Texas, MATH 1720 Calculus II, Spring 2026

Course instructor, University of North Texas, MATH 1710 Calculus I, Spring 2025

Course instructor, University of North Texas, MATH 2000 Discrete Mathematics, Fall 2025

Course instructor, University of Toronto, MAT244 Introduction to Ordinary Differential Equations, Winter 2025

Course instructor, University of Toronto, MAT137 Calculus with proofs, Academic Year 2023-2024

Course lecturer and coordinator, University of Toronto, MAT329Y1Y Concepts in Elementary Mathematics, Academic Year 2022-2023

Course Instructor, Carnegie Mellon University, Summer 2015, 2016, 2017

- 2015 Summer 2, 21-122, Integration and Approximation, Carnegie Mellon University
- 2016 Summer 2, 21-127, Concepts of Mathematics, Carnegie Mellon University
- 2017 Summer 1, 21-260, Differential Equations, Carnegie Mellon University

Publications and Preprints

1. Stevo Todorcevic and Jing Zhang, *Stepping up to higher dimensions*, in preparation

2. Jeffery Bergfalk, Chris Lambie-Hanson and Jing Zhang, *The Cohomology of the ordinals*, in preparation
3. Chris Lambie-Hanson, Assaf Rinot and Jing Zhang, *Squares, ultrafilters and forcing axioms*, Selected Topics in Combinatorial Analysis, Part II, Mathematical Institute of the Serbian Academy of Sciences and Arts, Volume 22 (30), Page 411-447, 2025
4. Brent Cody, Chris Lambie-Hanson and Jing Zhang, *Two-cardinal derived topologies, indescribability and Ramseyness*, Journal of Symbolic Logic, to appear
5. Stevo Todorčević and Jing Zhang, *Higher dimensional chain conditions*, Journal of Mathematical Logic, to appear
6. Frank Tall and Jing Zhang, *The Second-order Version of Morley's Theorem on the Number of Countable Models does not Require Large Cardinals*, Archive for Mathematical Logic, Volume 63, pages 483–490
7. Tom Benhamou and Jing Zhang, *Transferring Compactness*, Journal of the London Mathematical Society, Volume 109, Issue 6, June 2024, e12940
8. Michael Hrusák, Saharon Shelah and Jing Zhang, *More on Ramsey theory for highly connected monochromatic subgraphs*, <https://arxiv.org/abs/2305.00882>, Canadian Journal of Mathematics, Volume 76 , Issue 6 , December 2024 , pp. 2136 - 2150
9. Omer Ben-Neria and Jing Zhang, *Approximating diamond principles on products at an inaccessible cardinal*, Transactions of AMS, 376 (2023), 5923-5948
10. Assaf Rinot and Jing Zhang, *Complicated colorings, revisited*, Annals of Pure and Applied Logic, Volume 174, Issue 4, April 2023, 103243,
11. Omer Ben-Neria and Jing Zhang, *Compactness and Guessing Principles in the Radin Extensions*, Journal of Mathematical Logic, Vol. 23, No. 02, 2250024 (2023)
12. Assaf Rinot and Jing Zhang, *Strongest transformations*, Combinatorica, 43, pages 149–185 (2023)
13. Shimon Garti and Jing Zhang, *Stationary and Closed Rainbow subsets*, Annals of Pure and Applied Logic, Volume 172, Issue 2, 2021
14. Assaf Rinot and Jing Zhang, *Transformations of the transfinite plane*, Forum of Mathematics, Sigma, 9, E16
15. Jing Zhang, *Reflection Principles, GCH and the Uniformization Properties*, to appear, Israel Journal of Mathematics, 254, pages 57–85 (2023)
16. Jing Zhang, *Monochromatic Sumset Without the use of Large Cardinals*, Fundamenta Mathematicae 250 (2020) , 243-252
17. Jing Zhang, *Some Remarks on Uncountable Rainbow Ramsey Theory*, Proceedings of the American Mathematical Society, 151 (2023), 865-880
18. Jing Zhang, *Rado's Conjecture and its Baire Version*, Journal of Mathematical Logic, Vol. 20, No. 01, 1950015 (2020)
19. Jing Zhang, *A Tail Cone Version of the Halpern-Läuchli Theorem at a Large Cardinal*, Journal of Symbolic Logic, Volume 84, Issue 2, pp. 473-496 (2019)
20. Rupert Hölzl, Dilip Raghavan, Frank Stephan and Jing Zhang, *Weakly Represented Families in Reverse Mathematics*, In: Day A., Fellows M., Greenberg N., Khossainov B., Melnikov A., Rosamond F. (eds) Computability and Complexity. Lecture Notes in Computer Science, vol 10010. Springer, Cham, Pages 160-187

21. Kenshi Miyabe, André Nies and Jing Zhang, *Using Almost-Everywhere Theorems from Analysis to Study Randomness*, in *Bulletin of Symbolic Logic*, Vol 22, Issue 3, Sept 2016, Pages 305-331.

Invited research visits

- Invited research visit at Budapest set theory semester, June 10-14, Erdős Center, 2024 (host: Zoltan Vidnyánsky)
- Invited research visit at Serbian Academy of Sciences and Arts, August 21-September 30, Belgrade, 2024 (host: Stevo Todorcevic)
- Invited research participant, Infinite Structural Ramsey Theory (25w5398), November 23-28, 2025

Invited Talks

- *Title TBD*, Advances in Logic and Set Theory, AMS Spring Western Sectional Meeting at Boise State University in Boise, Idaho, March 7-8. 2026
- *Stepping up to higher dimensions*, Infinite Structural Ramsey Theory (25w5398), Banff Research Center, November, 2025
- *Stepping up to higher dimensions Part I, II*, University of North Texas logic seminar, October, 2025
- *Stepping up to higher dimensions*, Young Set Theory workshop, Vienna, September, 2025
- *Strong colorings in different dimensions*, Fields institute set theory seminar, Feb. 21, 2025
- *Coherent sequences in higher dimensions*, 64th Nankai logic colloquium, Dec. 20, 2024
- *Higher dimensional chain conditons*, SETTOP 2024, Novi Sad, Serbia, August 22, 2024
- *The Strengths and Weaknesses of the Second Uncountable Cardinal*, Renyi Institute set theory seminar, Budapest, June 13, 2024
- *Squares, ultrafilters and forcing axioms*, Rutgers logic seminar, April 8th, 2024
- *The Strengths and Weaknesses of the Second Uncountable Cardinal*, Berkeley Logic Colloquium, February 16, 2024
- *Higher dimensional combinatorics*, Waterloo logic seminar, Nov 8th, 2023
- *Higher dimensional combinatorics*, Fields set theory seminar, Oct 27, Nov 3, 2023
- *Higher dimensional combinatorics*, Notre Dame University logic seminar, Oct 3, 2023
- *Diamond principles*, Sichuan university logic seminar, March 10, 2023
- *Partition relations and ideal hypothesis*, Toronto set theory seminar, Feb 17, 2023
- *Highly connected Ramsey theory*, CUNY set theory seminar, online, Feb 3rd, 2023
- *Highly connected Ramsey theory*, CMS winter meeting, Toronto, Dec 3rd, 2022
- *Diamonds and Large Cardinals*, Fields Institute Set Theory Seminar, Sept 23, 30, 2022
- *Making the diamond principle fail at an inaccessible cardinal*, ASL summer meeting Logic Colloquium, Set Theory special session speaker, Reykjavik, Iceland, 27 June - 1 July 2022
- *Square and the strongest colorings*, AMS Special Session on Ramsey Theory of Infinite Structures, May 14-15, 2022
- *Ramsey-type theorems on large structures*, Jan 26 2022, NUS logic seminar

- *Strongest colorings*, July 06 2021, Annual Meeting of the Israel Mathematical Union, set theory and logic session
- *Compactness and Guessing Principles in the Radin extensions*, June 09 2021, Tel Aviv University set theory seminar
- *When does compactness imply guessing*, June 02 2021, Leeds University models and sets seminar
- *Transformations of the transfinite plane*, April 22 2020, Hebrew University set theory seminar
- *Rainbow Ramsey theory at uncountable cardinals*, Sept 09 2019, Bar-Ilan set theory seminar
- *A Ramsey theorem for (repeated) sums*, Oct 30 2018, CMU logic seminar
- *How to get the brightest rainbows from the darkest colorings*, Sep 18 2018, CMU logic seminar

Awards

- Israel Academy of Humanities and Sciences (IASH) Foreign postdoctoral fellowship 2019, <https://academy.ac.il/RichText/GeneralPage.aspx?nodeId=1461>
- ASL Student Travel Awards for ASL European Summer Meeting at Stockholm, Sweden, 2017
- Lijen Industrial Development Medal, National University of Singapore 2014
- Outstanding Winner and the Ben Fusaro Award, Mathematical Contest in Modeling 2012, Consortium for Mathematics and its Applications

Services

Serving as a referee/reviewer for the following:

- Advances in Mathematics
- Israel Journal of Mathematics,
- Journal of Symbolic Logic,
- Annals of Pure and Applied Logic,
- Fundamenta Mathematicae,
- Acta Mathematica Hungarica,
- Archive for Mathematical Logic,
- Mathematical Logic Quarterly,
- Austrian Science Fund (FWF) START programme.

Serving as a member of the UNT math social activities committee.

Serving as a co-organizer of the UNT logic seminar.