C. TERRY

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Research Interests

Model theory, extremal combinatorics, additive combinatorics

Employment

2020-present	Assistant Professor, The Ohio State University (OSU)
2018-2020	L. E. Dickson Instructor, University of Chicago
2016-2018	Brin Postdoctoral Fellow, University of Maryland

Short-term Positions

Fall 2021	Long Term Visitor, Fields Institute
Spring 2017	Research Fellow, Simons Institute for the Theory of Computing
Spring 2014	Program Associate, Mathematical Sciences Research Institute (MSRI)

Education

2012-2016	Ph.D. in Mathematics, University of Illinois Chicago
	advisors: David Marker and Dhruv Mubayi
2010 - 2012	M.S. in Mathematics, University of Illinois Chicago
2006 - 2010	B.S. in Mathematics, University of Chicago

Grants and Academic Honors

2023-2025	Alfred P. Sloan Research Fellowship
2023-2028	NSF CAREER Award DMS-2115518 (PI)
	Model Theoretic Classification Theory, Fourier Analysis, and Hypergraph Regularity
2019-2023	NSF Research Grant DMS-2239737 (PI)
	Model Theoretic Classification Theory and Finite Combinatorics
2018-2019	AMS-Simons Travel Award
2018	AWM Mentoring Travel Grant, *Mentor: Julia Wolf*
2015	Louise Hay Award, *Awarded to a math graduate student for academic excellence*

Publications

1. An improved bound for regular decompositions of 3-uniform hypergraphs of bounded VC_2-dimension, to appear, *Journal of Model Theory: special edition in honor of Ehud Hrushovski's 60th birthday*, (2022), arXiv 2204.08537
2. (with M. C. Laskowski) Jumps in speeds of hereditary properties in finite relational languages, *J. Comb. Theory Ser. B*, vol. 154, (2022), pp. 93-135

3. (with G. Conant and A. Pillay) Structure and regularity for subsets of groups with finite VC-dimension, *J. Eur. Math. Soc.*, vol. 24, iss. 2 (2022), pp. 583-621

4. (with D. Mubayi) Extremal theory of locally sparse multigraphs, *SIDMA*, vol. 34 (2020), iss. 34, 1922-1943.

5. (with J. Wolf) Quantitative structure of stable sets in finite abelian groups, *Trans. Amer. Math. Soc.*,373 (2020), 3885-3903.

6. (with M. C. Laskowski) Uniformly bounded arrays and mutually algebraic structures, *Notre Dame J. Form. Log.* 61, no. 2 (2020), 265-282.

7. (with G. Conant and A. Pillay) A group version of stable regularity, *Math. Proc. Cambridge Philos. Soc.*, Volume 168, Issue 2 (2020), 405-413.

8. (with J. Wolf) Stable arithmetic regularity in the finite-field model, *Bull. London Math. Soc.* 51 (2019), no. 1, 70-88.

9. (with D. Mubayi) An extremal graph problem with a transcendental solution, *Comb. Probab. Comput.* 28 (2019), no. 2, 303-324.

10. VC_ℓ-dimension and the jump to the fastest speed of a hereditary property, *Proc. Amer. Math. Soc.* 146 (2018), no. 7, 3111-3126.

11. Structure and enumeration theorems for hereditary properties in finite relational languages, *Ann. Pure Appl. Logic* 169 (2018), no. 5, 413-449.

12. (with M. Malliaris) On unavoidable induced subgraphs in large prime graphs, *J. Graph Theory* 88 (2018), no.2, 255-270.

13. (with D. Mubayi) Discrete metric spaces: structure, enumeration, and 0-1 laws, (2016), *J. Symb. Logic*, 84, Issue 4 (2019), 1293-1325.

14. (with G. Conant) Model theoretic properties of the Urysohn sphere, *Ann. Pure Appl. Logic* 167 (2016), no. 1, 49-72.

Preprints

15. (with A. Abd Aldaim and G. Conant) Higher arity stability and the functional order property, 2023, arXiv 2305.13111 (71 pages).

16. (with J. Wolf) Higher-order generalizations of stability and arithmetic regularity, 2021, arXiv 2111.01739 (120 pages).

17. (with J. Wolf) Irregular triads in 3-uniform hypergraphs, 2021, arXiv 2111.01737 (152 pages).

Selected Talks

2023	Structural Results Workshop, Simons Institute for the Theory of Computing, Berkeley, CA.
2023	Special session on Probabilistic and Extremal Combinatorics, AMS Sectional Meeting, University of Cincinnati, Cincinnati, OH.
2023	Special session on Logic, Combinatorics, and their Interactions, AMS Sectional Meeting, Georgia Tech, Atlanta, GA.
2022	Model theory conference in celebration of Ludomir Newelski's 60th birthday, Będlewo, Poland.
2022	Workshop on additive combinatorics and algebraic connections, Institute for Advanced Study, Princeton, NJ.
2022	Combinatorics Meets Model Theory, University of Cambridge, Cambridge, UK.
2022	Mini-symposium on additive combinatorics, SIAM Conf. on Discrete Math, Carnegie Melon University, Pittsburgh, PA.
2022	Special session on Model Theory and its Applications, AMS Sectional Meeting, Purdue University, West Lafayette, IN.
2022	ASL Special Session on Model Theoretic Classification Program, 2021 Joint Mathematics Meeting, Seattle, WA.
2021	Workshop: From geometric stability to tame geometry, Fields Institute, Toronto, CA.
2021	Webinar in Additive Combinatorics.
2021	Logic Seminar, Fields Institute, Toronto, Ontario, CA.
2021	Mini-symposium on extremal graph theory and combinatorics, SIAM Conf. on Discrete Math.
2020	Logic Seminar, University of Oxford, Oxford, UK.
2020	Logic Seminar, University of Leeds, Leeds, UK.
2019	Logic Seminar, University of Illinois at Urbana-Champaign, Urbana, IL.
2019	Recent Applications of Model Theory, Fields Institute, Toronto, ON.
2019	Logic in the Windy City Conference, University of Illinois at Chicago, Chicago, IL.
2019	Combinatorics Seminar, University of Cambridge, Cambridge, UK.
2019	Logic Seminar, University of Wisconsin, Madison, WI.
2018	Combinatorics Seminar, Carnegie Mellon University, Pittsburgh, PA.
2018	Logic Seminar, University of Notre Dame, Notre Dame, IN.
2018	Pure and Applied Model Theory Conference, UIC, Chicago, IL.
2018	Model Theory and Combinatorics Workshop, IHP, Paris, France.
2017	Midwest Model Theory Day, University of Illinois at Chicago, Chicago, IL.
2017	Recent Advances in Extremal Combinatorics Workshop, TSIMF, Sanya, China.
2017	Logic Colloquium, University of California, Berkeley, CA.
2017	ASL North American Annual Meeting, plenary speaker, Boise, ID.
2016	Combinatorics Seminar, University of Delaware, Newark, DE.
2016	Logic Seminar, University of Pennsylvania, Philadelphia, PA
2016	Logic Colloquium 2016, Leeds, UK.

Mentoring and Advising

<u>Ph. D. Students</u>
2022-present   Hannah Sheats (OSU)
2023-present   Yewen Sun (OSU)
2023-present   Hazal Sena Aydogdu (OSU)

<u>Postdocs</u>
2021-present   Liling Ko (OSU)

<u>Graduate Student Mentees</u>
2023-present   Jennifer Courts (OSU)
2022-2023   Hazal Sena Aydogdu (OSU)
2021-2022   Luči Krnić (OSU)

<u>Undergraduate Research Assistants</u>
2021   Connor Heald (OSU)
2019   Hope Mailing (UChicago)

<u>Research Opportunities in Mathematics for Underrepresented Students (ROMUS)</u>

2023   Summer research project on VC-dimension of semialgebraic sets (OSU)
        undergraduate student: Kayta Gheorghian
        graduate students: Nick Geis & Hannah Sheats
2021   Summer research project on stable graphs (OSU)
        undergraduate student: Deanna Perez
        graduate student: Joseph Leung

Workshop and Seminar Organizer

2023	Workshop on Neostability Theory, BIRS
2022	Workshop on Extremal Combinatorics and Geometry, BIRS
2022	Combinatorics Meets Model Theory, University of Cambridge
2021	Semester on Trends in Pure and Applied Model Theory, Fields Institute
2021	Workshop on Model Theory and Combinatorics, Fields Institute
2019	Conference for Chris Laskowski's 60th birthday, UMD, College Park, MD
2019	Special Session in Model Theory, AMS Sectional Meeting, CUNY, NY
2020-present	Combinatorics Seminar, OSU
2016-2018	Model Theory Seminar, UMD, College Park, MD
2013-2016	Louise Hay Logic Seminar, UIC, Chicago, IL

Departmental Service

2021-2023	Co-advisor, OSU student chapter of the AWM
2022-2023	Graduate Recruitment Committee, OSU
2021-2023	Graduate Mentoring Committee, OSU
2020-2023	Diversity and Departmental Climate Committee, OSU
2019-2020	Committee on Diversity and Inclusion, The University of Chicago
2012-2016	Coorganizer, UIC Chapter of AWM, Chicago, IL

Teaching Experience (some taught more than once):

- The Ohio State University:
    - Math 3345: Introduction to Higher Mathematics
    - Math 6002: Graduate Model Theory
- University of Chicago:
    - Math 161-162-163: Honors Calculus
    - Graduate topics course: model theory and combinatorics
- University of Maryland:
    - Math 445: Introduction to Mathematical Logic
    - Math 446: Axiomatic Set Theory
- University of Illinois at Chicago:
    - As primary instructor:
        1. Math 090: Intermediate Algebra
        2. Math 210: Calculus III
    - As graduate course assistant:
        1. Math 180-181: Calculus I and II
        2. Math 165: Calculus for Business
        3. Math 417: Complex analysis
        4. Math 075: Basic Algebra