

Sean Longbrake

Emory University | sean.longbrake@emory.edu

Education

Miami University , BS in Mathematics, with minor in Computer Science, BA in Classical Languages	Sept 2018 – May 2022
Emory University , Ph.D in Mathematics	Sept 2022 – present

Publications

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1. Tao Jiang, Sean Longbrake. On the number of H -free hypergraphs. submitted.
 2. Carla Groenland, Sean Longbrake, Raphael Steiner, Jérémie Turcotte, Liana Yepremyan. Longest cycles in vertex-transitive and highly connected graphs. submitted.
 3. Sean Longbrake, Juvaria Tariq. Some Cases of the Erdős-Lovász Tihany Conjecture for Claw-free Graphs. submitted.
 4. Tao Jiang, Sean Longbrake, Sam Spiro, and Liana Yepremyan. Tree Posets: Supersaturation, Enumeration, and Randomness. submitted.
 5. Tao Jiang, Sean Longbrake. Balanced supersaturation and Turan numbers in random graphs. *Advances in Combinatorics*, 2024:3
 6. Tao Jiang, Sean Longbrake. Tree Degenerate Graphs and nested dependent random choice. *SIAM Journal of Discrete Mathematics*. Vol 37. Iss. 3 (2023).
 7. Tao Jiang, Sean Longbrake, Jie Ma. Bipartite-ness under smooth conditions. *Combinatorics, Probability, and Computing*. 31 (2022), 333-344.

Teaching

Emory University Teaching Assistant for Linear Algebra; Sept 2023 - May 2024
Instructor of Record for Calculus I; Sept 2024 - May 2025

Outreach

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- Ran Student-reading Seminars on Extremal Combinatorics from Sept 2023 - Dec 2024
Covered recent advances in Ramsey Theory, classic results in extremal graph theory, and rainbow Turán problems
 - Organized Emory Math Circle from Sept 2022 - present
Led high-school and middle-school students through activities in real analysis, algebra, and combinatorics for six Saturdays in a semester
 - Organized a Julia Robinson Math Festival at Emory University in Aug 2022, Aug 2023, and Aug 2024
Led high-school and middle-school students through hands-on math-related activities in day long festival

Awards

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- Zoltan Balogh Memorial Prize: Spring 2022
 - Byron Smith Math Ward: Spring 2022
 - Dean's List: Fall 2020 - Spring 2022
 - Byron Smith Math Award: Spring 2021
 - Mary and Clifford Harvey Scholarship: Spring 2020
 - Donald Otto Koehler Prizes: Spring 2019
 - President's List: Fall 2018 - Spring 2020