



**Stanford Math Department Directed Reading Program:** Mentor (2021 – 2023)

Referee for:

Bulletin of the London Mathematical Society; Discrete Analysis;  
Discrete & Computational Geometry; Discrete Mathematics;  
Israel Journal of Mathematics; Journal of Combinatorial Theory, Series A;  
Journal of Graph Theory; Mathematische Annalen;  
Research in the Mathematical Sciences

## Publications

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19. Manik Dhar and Sammy Luo,  
Iterated sumset expansion in  $F_p^n$ ,  
[arXiv:2510.08857](https://arxiv.org/abs/2510.08857)
18. Travis Dillon, Junnosuke Koizumi, and Sammy Luo,  
At most 10 cylinders mutually touch: a Ramsey-theoretic approach,  
[arXiv:2510.03924](https://arxiv.org/abs/2510.03924)
17. Hannah Fox and Sammy Luo,  
Monochromatic components with many edges in random graphs,  
[arXiv:2509.01766](https://arxiv.org/abs/2509.01766)
16. Sammy Luo and Zixuan Xu,  
On off-diagonal F-Ramsey numbers,  
To appear in *SIAM Journal on Discrete Mathematics*. [arXiv:2412.19042](https://arxiv.org/abs/2412.19042)
15. Dingding Dong and Sammy Luo,  
Structure of tight  $(k, 0)$ -stable graphs,  
To appear in *Electronic Journal of Combinatorics*. [arXiv:2401.16639](https://arxiv.org/abs/2401.16639)
14. Sammy Luo,  
A new shift operator-based polynomial method in additive combinatorics,  
[arXiv:2311.08873](https://arxiv.org/abs/2311.08873)
13. Lyuben Lichev and Sammy Luo,  
Large monochromatic components in colorings of complete hypergraphs,  
*Journal of Combinatorial Theory Series A* 205 (2024): 105867. [arXiv:2302.04487](https://arxiv.org/abs/2302.04487)
12. Jacob Fox, Sammy Luo, Huy Tuan Pham, and Yunkun Zhou,  
Small subsets with large sumset: Beyond the Cauchy–Davenport bound,  
*Combinatorics, Probability and Computing* 33 (2024), 1-21. [arXiv:2210.07196](https://arxiv.org/abs/2210.07196)
11. Jacob Fox, Sammy Luo, and Huy Tuan Pham,  
On random irregular subgraphs,  
*Random Structures & Algorithms* 64.4 (2024): 899-917. [arXiv:2207.13651](https://arxiv.org/abs/2207.13651)
10. David Conlon, Sammy Luo, and Mykhaylo Tyomkyn,  
Monochromatic components with many edges,  
*Journal of Combinatorics* 15.1 (2024), 59–75. [arXiv:2204.11360](https://arxiv.org/abs/2204.11360)

9. Sammy Luo,  
On connected components with many edges,  
*SIAM Journal on Discrete Mathematics* 37.2 (2023), 573–585. arXiv:2111.13342
8. Jacob Fox, Xiaoyu He, Sammy Luo, and Max Wenqiang Xu,  
Multicolor list Ramsey numbers grow exponentially,  
*Journal of Graph Theory* 101 (2022), 389–396. arXiv:2103.15175
7. Jacob Fox, Sammy Luo, and Yuval Wigderson,  
Extremal and Ramsey results on graph blowups,  
*Journal of Combinatorics* 12.1 (2021), 1–15. arXiv:1912.08328
6. Ian Le and Sammy Luo,  
Generalized Minors and Tensor Invariants,  
*International Mathematics Research Notices* 2023.16 (2023), 13658–13686.  
arXiv:1901.09855
5. Hong Liu, Sammy Luo, Peter Nelson, and Kazuhiro Nomoto,  
Stability and exact Turan numbers for matroids,  
*Journal of Combinatorial Theory Series B* 143 (2020), 29–41. arXiv:1710.03815
4. Ryan Alweiss and Sammy Luo,  
Bounded gaps between primes in short intervals,  
*Research in Number Theory* 4.2 (2018), 1–27. arXiv:1707.05437
3. Sammy Luo,  
A counting lemma for binary matroids and applications to extremal problems,  
*Journal of Combinatorial Theory Series B* 136 (2019), 329–359. arXiv:1610.09587
2. Sammy Luo,  
Short zero-sum sequences over abelian p-groups of large exponent,  
*Journal of Number Theory* 177 (2017), 28–36. arXiv:1608.05157
1. Sammy Luo and Mark Sellke,  
The Saxl conjecture for fourth powers via the semigroup property,  
*Journal of Algebraic Combinatorics* 45.1 (2017), 33–80. arXiv:1511.02387

## Other Work Experience

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Problem Czar for the <b>Harvard-MIT Math Tournament (HMMT)</b>	2014–2016
Assistant Trader at <b>Jane Street Capital</b>	Jan 2015
Concept Map Designer at <b>Expii, Inc.</b> , an online crowdsourced education platform	2014–2015

## Presentations

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### Invited Talks

Rutgers Discrete Math Seminar	Nov 2025
UMaine Math Colloquium	Apr 2025
JMM, Special Session on Extremal Combinatorics and Random Discrete Structures	Jan 2025

EPFL Workshop on Synergies of combinatorics and theoretical computer science	Aug 2024
ISTA Combinatorics, Geometry and Topology Seminar	May 2024
AMS Spring Western Sectional Meeting, Special Session on Extremal Combinatorics and Connections	May 2024
MIT Combinatorics Seminar	Oct 2023
UCSD Workshop on Ramsey Theory	Feb 2023
AMS Fall Western Sectional Meeting, Special Session on Extremal Graph Theory	Oct 2022
AMS Fall Eastern Sectional Meeting, Special Session on Ramsey Theory	Oct 2022
SIAM Conference on Discrete Mathematics, Minisymposium on Probabilistic Methods and Combinatorics	June 2022
Stanford Combinatorics Seminar	May 2022

### ***Other Talks***

SLMath Extremal Combinatorics Seminar & Graduate Student Seminar	2025
G2 (Girls Together) Math Program at MIT	2024
Graduate Student Combinatorics Seminar	2023
Stanford Combinatorics Reading Seminar	2019, 2021, 2022
Stanford Student Probability Seminar	2022
MIT-Stanford Combinatorics Reading Seminar	2020
Joint Math Meetings (JMM)	2016, 2017

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### **Languages**

American English – Native  
 Mandarin Chinese – Native  
 German – Conversational  
 Spanish – Conversational