JIAXI NIE

Email: jin019@ucsd.edu

Research interests	My research interests lie mainly in extremal combinatorics and probabilistic combinatorics, but I keep my brain open for any interesting math problems.

Qualifications

Postdoc, Shanghai Center for Mathematical Science — 2022 – present

Postdoc, Max Planck Institute for MiS — 2022 Spring/Summer

Ph.D. in Mathematics, University of California, San Diego — 2016 – 2022
Adviser: Prof. Jacques Verstraëte. *GPA: 4.00/4.00*

B.S. in Mathematics, Nankai University — 2012 – 2016
GPA: 90.41/100

Exchange Semester, University of California, Berkeley — 2014 Fall
GPA: 4.00/4.00

Preprints

Random Turán theorem for expansions of spanning subgraphs of tight trees *Submitted. arxiv.*

Turán theorems for even cycles in random hypergraph *Submitted. arxiv.*

On asymptotic local Turán problems (with Peter Frankl) *Submitted. arxiv.*

Publications

On asymptotic packing of convex geometric and ordered graphs (with Erlang Surya, and Ji Zeng) *To appear on Journal of Graph Theory. arxiv.*

On Turán numbers for disconnected hypergraphs (with Raffaella Mulas) *To appear on Acta Mathematica Hungarica. arxiv.*

Odd Covers of Graphs. (With Calum Buchanan, Alexander Clifton, Eric Culver, Jason O'Neill, Puck Rombach, and Mei Yin) *To appear on Journal of Graph Theory. arxiv.*

On Asymptotic Packing of Geometric Graphs. (With Daniel Cranston, Jacques Verstraëte, and Alexandra Wesolek) *Discrete Applied Mathematics 322 (2022): 142-152. journal, arxiv.*

Maximal independent sets in clique-free graphs. (With Xiaoyu He, and Sam Spiro) *European Journal of Combinatorics 106 (2022): 103575. journal, arxiv.*

Ramsey Numbers for Non-trivial Berge Cycles. (With Jacques Verstraëte)
SIAM Journal on Discrete Mathematics 36.1 (2022): 103-113. journal, arxiv.

Triangle-free Subgraphs of Hypergraphs. (With Sam Spiro, and Jacques Verstraëte) *Graphs and Combinatorics 37 (2021): 2555-2570. journal, arxiv.*

Randomized greedy algorithm for independent sets in regular uniform hypergraphs with large girth. (With Jacques Verstraëte) *Random Structures & Algorithms 59.1 (2021): 79-95. journal, arxiv.*

Talks	Discrete Math Seminar, Shanghai Jiao Tong University	Nov. 2022
	Discrete Math Seminar, University of Victoria	Nov. 2022
	Czech-Slovak International Symposium on Graph Theory, Combinatorics, Algorithms and Applications	July 2022
	Discrete Math Seminar, Shandong University	July 2022
	Networks Seminar, MPI for Mathematics in the Sciences	May 2022
	Joint Mathematics Meetings, online	April 2022
	Graduate Student Combinatorics Conference, UCSD	March 2022
	Discrete Math Seminar, Simon Fraser University	Jan. 2021
	SCMC Combinatorics Seminar, Fudan University	Jan. 2021
	Discrete Math Seminar, Iowa State University	Nov. 2021
	AMS Fall Central Sectional Meeting, online	Oct. 2021
	The Nankai University International Talent Forum	May 2021
	AMS Spring Western Sectional Meeting (Cancelled due to COVID)	May 2020

Teaching	**Instructor**	
	MATH 20C - Calculus&Analyt Geom/Sci&Engnr	Summer I 2021
	Teaching Assistant	
	MATH 154 - Discrete Math & Graph Theory	Winter 2022
	MATH 154 - Discrete Math & Graph Theory	Winter 2021
	MATH 154 - Discrete Math & Graph Theory	Fall 2020
	MATH 20E - Vector Calculus	Summer II 2020
	MATH 154 - Discrete Math & Graph Theory	Spring 2020
	MATH 154 - Discrete Math & Graph Theory	Winter 2020
	MATH 170A - Intro Numerical Analys/Linear	Fall 2019
	MATH 220C - Complex Analysis	Spring 2019
	MATH 18 - Linear Algebra	Spring 2019
	MATH 170B - Intro/Numerical Analy/Approxim	Winter 2019
	MATH 170A - Intro Numerical Analys/Linear	Fall 2018
	MATH 142A - Introduction to Analysis I	Summer I 2018
	MATH 184A - Combinatorics	Spring 2018
	MATH 184A - Combinatorics	Winter 2018
	MATH 184A - Combinatorics	Fall 2017

	MATH 20B - Calculus/Science & Engineering	Winter 2017
	MATH 20A - Calculus/Science & Engineering	Fall 2016

Honors and Scholarships	UCSD James B. Ax Graduate Fellowship	2016
	COMAP's Mathematical Contest in Modeling:	
	Meritorious Winner (Top 9%)	2015
	Chinese Undergraduate Mathematical Olympiad (Final):	
	Third prize	2014
	Chinese Undergraduate Mathematical Olympiad (Preliminary in Tianjin):	
	First prize (second place)	2013

Service — Served as referee for: SIAM Journal of Discrete Mathematics, Random Structures & Algorithms, The Australasian Journal of Combinatorics, Journal of Combinatorial Optimization, Discrete Mathematics.