Gweneth McKinley

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La Jolla, CA 92093-0112, USA

RESEARCH INTERESTS	Extremal and Probabilistic Combinatorics, Graph Theory	
EMPLOYMENT	President's Postdoctoral Fellow University of California, San Diego	2020–2023
EDUCATION	Ph.D. Applied Mathematics Massachusetts Institute of Technology Advisor: Henry Cohn	2020
	Visiting student at Universidad de Chile from 06/2019–08/2019	
	B.S. Mathematics University of California, Davis Highest Honors. Advisor: Anne Schilling	2015
	A.S. Mathematics Pasadena City College	2013

RESEARCH PUBLICATIONS

On the zeroes of hypergraph independence polynomials (with D. Galvin, W. Perkins, M. Sarantis, and P. Tetali),
Submitted.
arXiv:2211.00464

Maximum entropy and integer partitions (with M. Michelen and W. Perkins),
To appear in Combinatorial Theory.
arXiv:2012.14498

Resilience of the rank of random matrices (with A. Ferber and K. Luh),
Combinatorics, Probability, and Computing, pp. 1-12, 2020.
doi:10.1017/S0963548320000413

Superlogarithmic cliques in dense inhomogeneous random graphs
SIAM Journal on Discrete Mathematics, Vol. 33, No. 3, pp. 1772–1900, 2019.
doi:10.1137/19M1249540

Supersaturated sparse graphs and hypergraphs (with A. Ferber and W. Samotij),
International Mathematics Research Notices, Vol. 2020, No. 2, pp. 378–402, 2020.
doi:10.1093/imrn/rny030

A problem in card shuffling, UC Davis Undergraduate Thesis, 2015.

RESEARCH TALKS	AMS Fall Southeastern Sectional Meeting: Special Session on Topics in Graphs, Hypergraphs and Set Systems	10/2022

University of Warwick Combinatorics Seminar	05/2021
Southern California Discrete Mathematics Symposium, UC Irvine	04/2021
Combinatorics, Probability and Algorithms Seminar, University of Birmingham	03/2021
UCSD Probability Seminar, University of California San Diego	01/2021
Joint seminar: Universidad de Valparaíso and Universidad de Chile ACGO seminar	12/2020
Georgia Tech Combinatorics Seminar	11/2020
AMS Fall Southeastern Sectional Meeting: Special Session on Random Discrete Structures	10/2020
Algebra & Discrete Mathematics Seminar, University of California Davis	10/2020
Women in Combinatorics Virtual Colloquium	10/2020
Seminario de Estudiantes en Matemáticas, Universidad de Chile	07/2020
Facets of Complexity Colloquium, Freie Universität Berlin	01/2020
Joint Mathematics Meetings: AMS Special Session on Extremal and Probabilistic Combinatorics, Denver	01/2020
Combinatorics and Probability Seminar, University of California Irvine	01/2020
UCSD Combinatorics Seminar, University of California San Diego	01/2020
Rutgers Discrete Mathematics Seminar, Rutgers University	11/2019
Combinatorics and Probability Seminar, University of Illinois at Chicago	10/2019
ACO Seminar, Carnegie Mellon University	09/2019
ACGO Seminar, Universidad de Chile	06/2019
PhD Seminar on Combinatorics, Games and Optimisation, London School of Economics	05/2019
Rio Workshop on Extremal and Structural Combinatorics, Instituto de Matemática Pura e Aplicada, Rio de Janeiro	01/2018
MIT Combinatorics Seminar	09/2017
Mathematical Congress of the Americas: Special Session on Extremal and Probabilistic Combinatorics, Montreal	07/2017
MIT Pure Math Graduate Student Seminar	09/2015
Northern California Undergraduate Mathematics Conference	03/2015

TEACHING

Instructor, UCSD, Calculus II   Fall 2022

- 183 students, lower division course.

Instructor, UCSD, Introduction to Graph Theory   Spring 2022

- 208 students, upper division proof-based course.

Instructor, UCSD, Calculus I for Science and Engineering   Winter 2022

- 216 students, lower division course. First 4 weeks of instruction online due to Omicron COVID surge.

Instructor, UCSD, Introduction to Probability   Fall 2021

- 138 students, upper division course.

Teaching Assistant, MIT, Introduction to Probability	2017-2020 (4 semesters)
Instructor, MIT, Single Variable Calculus	Winter 2019
Teaching Assistant, MIT, Principles of Discrete Applied Math	Spring 2018
Course Assistant/Grader, MIT, Enumerative Combinatorics	Fall 2016

RELATED WORK

Graduate Resident Advisor, Burton-Conner House, MIT   2018-2020

- *Job description:* Lived in undergraduate dormitory at MIT on floor with 48 students, provided support and informal counseling, planned social events, was

responsible for crisis management.

Program Director, MIT $\sqrt{}$mathroots   2017-2018

- *Job description:* Hired and supervised residential staff for 2-week residential high school summer program with 20 students. Coordinated housing, food, and other program logistics. Lived with students and counselors in dormitory.

Mentor, PRIMES, MIT Math Department	Spring 2018
Assistant Program Director, MIT $\sqrt{}$mathroots	2016
Mentor, Directed Reading Program, MIT Math Department	Winter 2016

FUNDING AND AWARDS

MSRI Summer Research in Mathematics collaboration grant	2022
AIM SQuaRE collaboration grant	2021-2023
President's Postdoctoral Fellowship, UC San Diego	2020-2023
Charles and Holly Housman Award for Excellence in Teaching, MIT	2019
Graduate Women of Excellence, MIT	2017
Stein Family Fellowship, MIT	2016
Praecis Presidential Fellow, MIT	2015-2016
Highest Honors, UC Davis	2015
Outstanding Senior Award in Mathematics, UC Davis	2015
Academic Senate Scholarship, Pasadena City College	2013