Jesse Kim

Department of Mathematics
University of California, San Diego
9500 Gilman Drive # 0112
La Jolla, CA, 92093-0112

Email: jesse.kim@ufl.edu
Phone: (650)-804-5501

Education

Ph.D. in Mathematics. University of California, San Diego. June 2024.
B.A. in Mathematics. Reed College. Portland, OR. June 2018.

Publications & talks

Preprints

Rotation invariant webs for three row flamingo Specht modules. 2024

Published articles

An embedding of the skein action for set partitions into the skein action for matchings. *Electronic Journal of Combinatorics*, 2024.
A pentagonal number theorem for tribone tilings. (With James Propp) *Electronic Journal of Combinatorics*, 2023.
An embedding of the skein action for set partitions into the skein action for matchings. *Proceedings of FPSAC 2023*, 2023.
A combinatorial model for the fermionic diagonal coinvariant ring. *Combinatorial Theory*, 2023.
Set partitions, fermions, and skein relations. (with Brendon Rhoades) *International Math Research Notices*, 2022.
Simplicial dollar game. (with David Perkinson) *Electronic Journal of Combinatorics*, Volume 29 (2) 2022.
Many associated primes of powers of primes. (with Irena Swanson) *Journal of Pure and Applied Algebra*, 2019.
Jacobi-Trudi determinants over finite fields. (with Ben Anzis, Shuli Chen, Yibo Gao, Zhaoqi Li, and Rebecca Patrias) *Annals of Combinatorics*, Volume 22 2018.

Talks, Posters, and Presentations

Fermions, set partitions, and webs. UC Davis algebra and discrete math seminar (2023), University of Minnesota combinatorics seminar (2023).

A skein action embedding. Graduate online combinatorics colloquium (2022), UCSD combinatorics seminar (2023), FPSAC poster session (2023).
Degree for simplicial complex divisors. AMS special session on Chip Firing and Divisor Theory (2019).

Teaching

Instructor courses

Caluclus III (Math 10C). UCSD, Fall 2022.

TA courses

Math 184 - Enumerative Combinatorics. SP 24, SP 23, SP 21, WI 21, FA 20, WI 20, WI 19.
Math 154 - Graph Theory. WI 24, FA 23, WI 23, FA 19.
Math 142b - Introduction to Analysis II. S2 22.
Math 109 - Mathematical Reasoning. S2 23, SP 22, WI 22, S1 20.
Math 188 - Algebraic Combinatorics. FA 21,WI 20.
Math 10A - Calculus I. FA 2021
Math 158 - Extremal Combinatorics/Graph Theory. WI 21.
Math 18 - Linear Algebra. SP 20.
Math 20E - Vector Calculus. FA 18.