Mitsuki Hanada

1034 Evans Hall,
Berkeley, CA 94703

Email: mhanada@berkeley.edu
https://math.berkeley.edu/ mhanada/

EDUCATION

University of California, Berkeley Expected: May 2026
Ph.D Candidate in Mathematics
Advisors: Mark Haiman / Sylvie Corteel

Wellesley College May 2021
B.A. in Mathematics with Honors, Summa Cum Laude

PUBLICATIONS AND PREPRINTS

5. "Representation theoretic bases for the Δ-Springer Modules" (with R.Chou)
   (arXiv: 2509.24252)

4. "A charge monomial basis of the Garsia-Procesi ring"
   Algebraic Combinatorics (to appear, 2025)
   (arXiv: 2410.15514).

3. "Polyhedral geometry of refined q,t-Catalan numbers" (with M.Beck, M.Hlavacek, J.Lentfer, A.R. Vindas-Meléndez, and K.Waddle.)
   Journal of Combinatorics (2024)

2. "Generalized parking function polytopes" (with J. Lentfer, and A.R. Vindas-Meléndez)
   Annals of Combinatorics (2024), Volume 28.

1. "Fourier Coefficients of Level 1 Hecke Eigenforms" (with R. Madhukara)
   Acta Arithmetica (2021).

REFEREED CONFERENCE PROCEEDINGS

1. "A charge monomial basis of the Garsia-Procesi ring" (Accepted as poster)
   Proceedings of FPSAC 2025. *Sém. Lothar. Combin.*, **93B** (2025).

AWARDS AND HONORS

Outstanding Graduate Student Instructor (UC Berkeley)	2023
Funai Overseas Scholar	2021-2023
Lewis Atterbury Stimson Prize in Mathematics (Wellesley College)	2021
Grew Bancroft Scholar	2017-2021

TALKS

Conference Talks

AMS Southeastern sectional meeting October 2025
Tulane University

New perspectives of coinvariant rings from viewpoints of geometry and algebraic combinatorics July 2025
RIMS, Kyoto University

q,t-Combinatorics in Algebra, Geometry and Topology in Cortona June 2025

Cortona, Italy

Combinatorial Algebra meets Algebraic Combinatorics   January 2025
University of Toronto, Fields Institute

AMS Western sectional meeting   October 2024
UC Riverside

AMS Western sectional meeting   May 2024
San Francisco State University

Seminar Talks

Combinatorics Seminar, University of Minnesota,   November 2025
Combinatorics Seminar, Brown University,   November 2025
Combinatorics Seminar, UC Berkeley,   October 2025
CAGE Seminar, University of Pennsylvania/ Drexel University,   September 2025
Algebra & Discrete Mathematics Seminar, UC Davis,   March 2025
Séminaire du LaCIM Université du Québec à Montréal   January 2025
Graduate Online Combinatorics Colloquium, Online   November 2024
Combinatorics Seminar, UC Berkeley   October 2024

SERVICE

Organizing

Graduate Online Combinatorics Colloquium   Fall 2024- Present
Berkeley Combinatorics Research Seminar   Fall 2022- Present
BADMath (Bay Area Discrete Math)   December 2024
Berkeley Combinatorics Student Reading Seminar   Fall 2022, Spring 2024
- q,t-Catalan Numbers and the Space of Diagonal Harmonics (Fall 2022)
- Combinatorics and Hilbert Scheme (Spring 2024)

Mentoring

Directed Reading Program mentor   Fall 2021, Fall 2022, Fall 2023, Spring 2024-Present
- Topics in Algebraic Combinatorics (Lecture notes: 18.212)
- Art of Counting (Sagan)
- Young Tableaux (Fulton)

Membership

Noetherian Ring (UC Berkeley)   Fall 2021- Present

Refereeing

Combinatorial Theory

WORKSHOPS

WINART4, Banff International Research Station   March 2025
GEMS of Combinatorics, American Institute of Mathematics   March 2023

TEACHING

UC Berkeley

Math 55 (Discrete Mathematics), Head GSI   Spring 2025
Math 110 (Abstract Linear Algebra), GSI   Spring 2024, Fall 2024
Math N55 (Discrete Mathematics), Main Instructor   Summer 2024
Math 55 (Discrete Mathematics), GSI   Fall 2023
Math N54 (Linear Algebra and Differential Equations), Main Instructor Summer 2022
Math 54 (Linear Algebra and Differential Equations), GSI   Spring 2022