

# MENGWEI HU

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## EDUCATION

**Ph.D. in Mathematics**, Yale University 2020–2026

Advisor: Prof. Ivan Losev

**B.Sc. (Honor) in Mathematics**, Sichuan University 2016–2020

## RESEARCH INTERESTS

Geometric representation theory and its connections to algebraic and symplectic geometry. In particular, modules over quantizations and involutions of quiver varieties.

## PUBLICATIONS

- Hu, M. On certain Lagrangian subvarieties in minimal resolutions of Kleinian singularities. *Submitted*. DOI: 10.48550/arXiv.2504.08717.
- Hu, M. Presentations of diagram categories. *PUMP J. Undergrad. Res.* 2019, 3, 1–25. DOI: 10.46787/pump.v3i0.2256.

## FELLOWSHIPS & AWARDS

- **Fan Family Fellowship**, Yale University 2020–2021
- **Conference Travel Fellowship**, Yale University 2025
- **Symposium Travel Grant**, Association for Women in Mathematics 2025

## INVITED TALKS

- Seattle Noncommutative Algebra Conference, University of Washington Dec 2025
- Representation Theory Seminar, UMass Amherst Nov 2025
- AMS Central Sectional (Geometry, Representation Theory & Noncommutative Algebra), SLU Oct 2025
- Algebra Seminar, University of Georgia Oct 2025
- Topology Seminar, Johns Hopkins University Sep 2025
- Algebra Seminar, University at Buffalo Sep 2025
- Algebra Seminar, Syracuse University Sep 2025
- AWM Research Symposium (Mathematical Physics & Representation Theory), UW-Madison May 2025
- Algebra Seminar, University of Oregon Mar 2025
- Algebra Seminar, UCLA Mar 2025
- Geometry, Symmetry and Physics Seminar, Yale Jan 2025
- AMS Western Sectional (Geometric & Categorical Representation Theory), UC Riverside Oct 2024
- AMS Eastern Sectional (Singularities in Commutative Algebra), UAlbany Oct 2024

## Contributed Presentations

- International Congress of Mathematicians (ICM) 2026, Philadelphia (short communication) Jul 2026
- Categorification and Symplectic Duality Workshop, Northeastern University (poster) Jun 2025

## TEACHING

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- **Instructor of Record**, Yale University
  - MATH 115: Calculus of Functions of One Variable II *Fall 2024, Spring 2026*
  - MATH 112: Calculus of Functions of One Variable I *Fall 2022, Fall 2023*
  - MATH S118E: Introduction to Functions of Several Variables, [Syllabus](#) *Summer 2024*
- **Certificate of College Mathematics Teaching Preparation** *2025*
- Teaching Assistant: Linear Algebra, Calculus *Spring, Summer, Fall 2021, Summer 2023*

## MENTORING

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- **REU Mentor**, Superalgebras and Polynomial Spaces *Summer 2025*
- Mentor, American Women in Mathematics Mentor Network *2025–present*
- Mentor, Yale Math Buddies Program for First-Year Graduate Students *Fall 2022*
- Mentor, Yale Take an Undergraduate to School *Spring 2022*

## SERVICE AND OUTREACH

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### Referee Service

- Referee for Journals: *Representation Theory*

### Panel Service

- Graduate School Panelist, Women in Mathematics in New England *Sep 2024*
- Graduate Instructor Panelist, Lang Teaching Seminar at Yale *Mar 2024*

### Organizational Service

- Organizer, Joint Yale-Columbia Representation Seminar *Fall 2022*
- Organizer, Yale Graduate Student Seminar *Spring 2022*

### Community Service

- Sports Chair, Yale Research Experience for Undergraduate Students *Summer 2025*
- Committee Member, Yale Graduate Student Advisory Committee *2023–2026*
- Network Member, American Women in Mathematics Research Networks: WINART, WICA *2025–present*