

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

- AMS Southeast Sectional (Algebraic, Combinatorial & Geometric Representation Theory), GU Mar 2026
- Cluster Algebras and Lie Theory Seminar, University of Notre Dame Mar 2026
- Geometry, Algebra, and Theoretical Physics Seminar, Imperial College London 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

- **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

- **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

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*