MENGWEI HU

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EMPLOYMENT

J.J. Sylvester Assistant Professor, Johns Hopkins University *2026–2029*

EDUCATION

Ph.D. in Mathematics, Yale University *2020–2026*
Advisor: Ivan Losev
Thesis: *Geometry of anti-Poisson involutions in the deformations and resolutions of Kleinian singularities*

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

RESEARCH INTERESTS

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

PUBLICATIONS

- M. Hu, On certain Lagrangian subvarieties in minimal resolutions of Kleinian singularities. **Transform. Groups**, 31 (2026), 4111–4186. DOI: 10.1007/s00031-026-10001-3.
- M. Hu, Presentations of diagram categories. **PUMP J. Undergrad. Res.** 3 (2020), 1–25. DOI: 10.46787/pump.v3i0.2256.

FUNDED COLLABORATIONS

Institute for Advanced Study, Summer Collaborators Program *2026*

FELLOWSHIPS & AWARDS

- **AMS-ICM Travel Grant**, funded by the National Science Foundation *2026*
- **AMS Sectional Travel Grant**, 2026 Spring Southeastern Sectional *2026*
- **AWM Symposium Travel Grant**, 2025 Research Symposium *2025*
- **Fan Family Fellowship**, Yale University *2020–2021*

INVITED TALKS

- Algebra Seminar (Zoom), University of Oxford *Nov 2026*
- AMS Fall Central Sectional (Recent Progress in Representation Theory), UMN Duluth *Oct 2026*
- AMS Fall Southeastern Sectional (Geometric & Homological Representation Theory), KSU *Oct 2026*
- Algebra and Number Theory Seminar, Louisiana State University *Apr 2026*
- AMS Spring Southeastern Sectional (Noncommutative Algebra), Georgia Southern University *Mar 2026*
- AMS Spring Southeastern Sectional (Representation Theory), Georgia Southern University *Mar 2026*
- Cluster Algebras and Lie Theory Seminar, University of Notre Dame *Mar 2026*
- Geometry, Physics, and Representation Theory Seminar, Northeastern University *Jan 2026*
- Geometry, Algebra, and Theoretical Physics Seminar (Zoom), Imperial College London *Dec 2025*
- Representation Theory Seminar, University of Massachusetts 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, Syracuse University *Sep 2025*
- Algebra Seminar, University at Buffalo *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), University at Albany *Oct 2024*

Contributed Talk

- International Congress of Mathematicians (ICM) 2026, Philadelphia (short communication) *Jul 2026*

RESEARCH VISITS

- University of Texas at Austin *Oct 2025*

TEACHING

Instructor of Record

- AS.110.106: Calculus I (Biology and Social Sciences), Johns Hopkins University *Fall 2026*
- MATH 115: Calculus of Functions of One Variable II, Yale University *Fall 2024, Spring 2026*
- MATH S118E: Introduction to Functions of Several Variables, Yale University *Summer 2024*
- MATH 112: Calculus of Functions of One Variable I, Yale University *Fall 2022, Fall 2023*

Certificate of College Mathematics Teaching Preparation, Yale University *2025*

Teaching Assistant: Linear Algebra, Calculus, Yale University *Spring, Summer, Fall 2021*

MENTORING

- **REU Mentor**, Summer Undergraduate Math Research at Yale *Summer 2025*
  Superalgebras and Polynomial Spaces (with Dwight Williams II)
- Mentor, Association for Women in Mathematics Mentor Network *2025–present*
- Mentor, Yale Math Graduate Buddies Program *Fall 2022*
- Mentor, Yale Take an Undergraduate to School *Spring 2022*

SERVICE AND OUTREACH

Referee Service

- IMRN, Represent. Theory, Proc. 2025 AWM Res. Symp.

Conference and Seminar Organization

- Co-organizer, AMS Sectional Special Session, Syracuse University *Apr 2027*
  Advances in Geometric Representation Theory and Related Areas (with Yiqiang Li)
- Co-organizer, Joint Yale-Columbia Representation Theory Seminar *Fall 2022*
- Co-organizer, Yale Graduate Student Seminar *Spring 2022*

Panels, Committees, and Outreach

- Panelist, Academic Job Market Panel, Johns Hopkins University *Sep 2026*
- Panelist, Graduate School Panel, Women in Mathematics in New England (WIMIN) *Sep 2024*

· Panelist, Graduate Instructor Panel, Lang Teaching Seminar at Yale *Mar 2024*
· Committee Member, Yale Graduate Student Advisory Committee *2023–2026*