

**Mingyuan Hu**  
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## Education

- 2020–25  
(expected)      **Ph.D.** in Mathematics, Northwestern University  
Supervisor: [Eric Zaslow](#)  
Topic of Oral Exam: *Microlocal Morse theory of wrapped Fukaya categories*
- 2016-20      **B.Sc.** in Mathematics, Peking University  
Supervisor: [Bohan Fang](#)  
Thesis: *Arboreal Singularities and Applications in Symplectic Geometry*

## Research Interest

Mathematical physics and symplectic topology. Homological mirror symmetry, microlocal sheaf theory, (wrapped) Fukaya categories, (open) Gromov-Witten theory, skein theory and cluster theory.

## Papers

1. **Hu, Mingyuan.** A Proof of the Pentagon Relation for Skeins. *arXiv e-prints*. arXiv: [2401.10817](#) (Jan. 2024).
2. **Hu, M., Schrader, G. & Zaslow, E.** Skeins, clusters and wavefunctions. *accepted by Adv. Theor. Math. Phys.* arXiv: [2312.10186](#) (Dec. 2023).

## Invited Talks

- . Simons Center for Geometry and Physics, Workshop ‘recent developments in higher genus curve counting’. Feb. 6, 2025.
- . Stanford University, Symplectic Geometry Seminar. Oct. 14, 2024.
- . Columbia University, Enumerative Geometry Seminar. Oct. 4, 2024.
- . Northwestern University, Geometry & Physics Seminar. Sept. 26, 2024.
- . Kansas State University, M-Seminar. Sept. 13, 2024.
- . Yau Mathematical Sciences Center, Tsinghua University. YMSC Topology Seminar. Dec. 26, 2023.
- . BICMR, Peking University. Symplectic Geometry and Mathematical Physics Seminar. Dec. 5, 2023.

## Posters

- . International Congress of Basic Science (ICBS), BIMSA, Beijing, China. July 2024.

## **(Co-)organized seminars**

- . *NU Geometry & Physics Seminar*. Northwestern University, Fall 2024.
- . *Sheaf Quantization Seminar*. Northwestern University, Fall 2024.

## **Teaching**

Fall 2024	Math 250-0, Elementary Differential Equations, TA
Fall 2024	Math 331-1, Abstract Algebra, TA
Winter 2023	Math 228-1, Multivariable Differential Calculus for Engineering, TA
Fall 2023	Math 228-1, Multivariable Differential Calculus for Engineering, TA
Winter 2022	Math 470-2, Algebra, TA
Winter 2022	Math 440-2, Geometry and Topology, TA
Fall 2022	Math 470-1, Algebra, TA
Fall 2022	Math 440-1, Geometry and Topology, TA

## **Miscellaneous**

- 5th Dan in Weiqi (Go)
- Captain of the Peking University Varsity Chinese Martial Arts Team (2018-2020)