

# YOYO JIANG

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## EDUCATION

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**MASt in Mathematics**, University of Cambridge

Expected June 2025

**BA/MA in Mathematics**, Johns Hopkins University

May 2025

## PAPERS

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- **Braidings on Non-Split Tambara-Yamagami Categories over the Reals** (joint with David Green, Sean Sanford). Preprint. <https://arxiv.org/abs/2412.21012>
- **Interface Resistance of Biomolecular Condensates** (joint with Yaojun Zhang, Andrew G.T. Pyo, Ross Kliegman, Clifford P. Brangwynne, Howard A. Stone, Ned S. Wingreen). *eLife* 12 (2024). <https://doi.org/10.7554/eLife.91680.3>

## TALKS

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6. *Braidings on Tambara-Yamagami Categories over the Reals*. JHU Graduate Student Seminar, November 2024.
5. *A Geometric Introduction to Representation Theory (Expository)*. JHU Math Club, April 2024.
4. *Braidings on Non-Split Tambara-Yamagami Categories over the Reals*. Mid-Atlantic Research Exchange (JHU MATRX), March 2024.
3. *Braidings on Non-Split Tambara-Yamagami Categories over the Reals (Poster)*. Joint Mathematics Meeting, January 2024.
2. *Braidings on Non-Split Tambara-Yamagami Categories over the Reals*. Young Mathematicians Conference, August 2023.
1. *Introduction to Monoidal Categories (Expository)*. JHU Math Club, May 2023.

## CONFERENCES/WORKSHOPS ATTENDED

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<i>IWoAT Summer School</i> , Westlake University.	July 2025
<i>Algebra and Number Theory Day</i> , Johns Hopkins University.	Nov 2024
<i>Atlantic Meeting on Topology, Representation theory, and K-theory (AMTRaK)</i> , Johns Hopkins University.	Nov 2024
<i>Women+ and Mathematics</i> , Institute for Advanced Study.	May 2024
<i>Gender Minorities in Topology and Related Areas Conference (GeMTRAK)</i> , University of Pennsylvania.	Apr 2024

## AWARDS

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Trinity Studentship in Mathematics	October 2025
Best Presentation, JHU MATRX Conference	March 2024
Woodrow Wilson Research Fellowship, Johns Hopkins University	2021 – Present
Dean's List, Johns Hopkins University	2021 – Present

## INDEPENDENT STUDY

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Reading course (thesis preparation) on $\infty$ -category theory, supervised by Emily Riehl	Fall 2024
• Read selections from Cisinski's <i>Higher Categories and Homotopical Algebra</i> and Riehl and Verity's <i>Elements of <math>\infty</math>-Category Theory</i>	
Reading course on higher algebra, supervised by Rok Gregoric	Fall 2024

<ul style="list-style-type: none"> <li>• Read parts of chapter 1 of Lurie's <i>Higher Algebra</i></li> </ul>	
Directed reading on algebraic curves, supervised by Anish Chedalavada	Fall 2024
<ul style="list-style-type: none"> <li>• Read selections from Fulton's <i>Algebraic Curves</i> and Hartshorne's <i>Algebraic Geometry</i></li> </ul>	
Reading course on representation theory, supervised by Yiannis Sakellaridis	Spring 2024
<ul style="list-style-type: none"> <li>• Read Erdmann's <i>Introduction to Lie Algebras</i> and selections from Fulton and Harris' <i>Representation Theory</i></li> </ul>	
Reading course on category theory, supervised by Emily Riehl	Spring 2024
<ul style="list-style-type: none"> <li>• Read chapters 4-6 of Riehl's <i>Category Theory in Context</i> and selections from Dwyer and Spalinski's <i>Homotopy theories and model categories</i></li> </ul>	
Directed reading on differential forms, supervised by Anish Chedalavada	Spring 2024
<ul style="list-style-type: none"> <li>• Read chapter 1 of Bott and Tu's <i>Differential Forms in Algebraic Topology</i> and selections from Tu's <i>An Introduction to Manifolds</i></li> </ul>	
Directed reading on sheaf theory, supervised by Anish Chedalavada	Fall 2023
<ul style="list-style-type: none"> <li>• Read chapters 1 and 2 of Vakil's <i>Rising Sea</i> and selections from Wedhorn's <i>Manifolds, Sheaves, and Cohomology</i></li> </ul>	
Reading course on category theory, supervised by Maru Sarazola	Spring 2023
<ul style="list-style-type: none"> <li>• Read chapters 1-4 of Riehl's <i>Category Theory in Context</i></li> </ul>	

## TEACHING EXPERIENCE

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### Johns Hopkins University

- Course Assistant, Calculus 1 (fall 2022).
- Learning Assistant, Physics 1 (spring 2022, fall 2022).
- Learning Assistant, Physics 2 (spring 2023).

## ORGANIZATION

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President of JHU Math Club (Ex Numera)	Jan 2023 – Dec 2024
Board member of JHU Society of Physics Students	Sep 2021 – May 2023

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<sup>1</sup>Updated November 15, 2025