

# DONGMING (MERRICK) HUA

California Institute of Technology  
Department of Mathematics

[dhua@caltech.edu](mailto:dhua@caltech.edu)  
<https://dmhua.people.caltech.edu/>

## ACADEMIC INTERESTS

---

I am interested in geometric analysis and convex geometry, as well as their intersections with probability.

## EDUCATION

---

### California Institute of Technology

- Ph.D. in Mathematics, Sept. 2025 to Present (Expected Graduation: Spring 2030)
- Advisor: Antoine Song

### University of California, Santa Barbara

- B.S. Mathematics, College of Creative Studies, Sept. 2021 to Mar. 2025
- GPA: 3.95/4.00, Major GPA: 4.00/4.00

## PUBLICATIONS AND PREPRINTS

---

1. **On Talagrand's Convexity Conjecture**, with Antoine Song and Stefan Tudose.  
Preprint. (<https://arxiv.org/abs/2605.10908>) (Featured in *Scientific American*.)

### Pre-Graduate Work

3. **Volume Entropy Rigidity for Random Groups at Low Densities**.  
Preprint. (<https://arxiv.org/abs/2505.23364>)
2. **Extremal hypergraphs for the Erdős-Selfridge theorem using labelings of binary trees**, with Kathryn Grossmann, Benjamin Pagano, Hannah Sheats, Eric Sundberg, Ann Thompson, and Sireesh Vinnakota.  
*Involve, a Journal of Mathematics*, 17(5), 845–899 (2024). (DOI: <https://doi.org/10.2140/involve.2024.17.845>.)
1. **Local behavior of the Eden model on graphs and tessellations of manifolds**, with Fedor Manin, Tahda Queer, and Tianyi Wang.  
*J Appl. and Comput. Topology*, 8, 1607–1647 (2024). (<https://arxiv.org/abs/2212.14146>)

## AWARDS AND HONORS

---

- Scott Russell Johnson Excellence in First-Year Graduate Studies Award (2026)
- NSF Graduate Research Fellowship Honorable Mention (2025)
- Raymond L. Wilder Award (2025)

---

<sup>1</sup>Updated June 19, 2026

## TEACHING

---

### California Institute of Technology

- Teaching Assistant, Math 1c analytical. Calculus of One and Several Variables and Linear Algebra (Spring 2026)
- Teaching Assistant, Math 3. Introduction to Probability and Statistic (Winter 2026)
- Teaching Assistant, Math 1A. Calculus of One and Several Variables and Linear Algebra (Fall 2025)

## SERVICE

---

- Caltech PMA Undergraduate-Graduate Mentorship Program, Mentor (Spring 2026)
- Stanford Mathematics Camp, Residential Counselor and Instructor (Summer 2023)