Zhong Zhang

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EDUCATION

The University of Chicago, Chicago, IL — Sep 2023 - present
Second year PhD Student

University of Pennsylvania, Philadelphia, PA — Sep 2020 - May 2023
Bachelor of Arts and Master of Arts in Mathematics
Phi Beta Kappa, Summa Cum Laude

- Thesis Advisor: Mona Merling and Thomas Brazelton
- Thesis Title: "Milnor Numbers of Complex Hypersurfaces"

Smith College, Northampton, MA — Sep 2019 - May 2020

INTERESTS

Topology and Geometry

RESEARCH EXPERIENCE

REU participant, **University of Chicago** — June 2022 - Aug 2022

- Worked on Quillen's proof of the Adams Conjecture and how it relates to the K-theory of finite fields, joint with Matthew Niemiro, advised by Peter May.
- Paper: http://math.uchicago.edu/ may/REU2022/REUPapers/Niemiro.pdf

DIRECTED READINGS

Participant, **Riemann Surfaces** — Mar 2024 - present

- Learned about Riemann surfaces from complex analytic, algebraic, and hyperbolic perspectives, supervised by Eduard Looijenga.

Participant, **Intersection theory** — Jan 2024 - Mar 2024

- Read 3264 & All That Intersection Theory in Algebraic Geometry, supervised by Akhil Matthew.

Participant, **Hodge Theory** — Oct 2023 - Dec 2023

- Read about real and complex hodge theory, with an emphasis on its applications to Kahler manifolds like smooth projective varieties, supervised by Benson Farb.

Participant, **Linear Algebraic Groups** — May 2023 - August 2023

- Read about linear algebraic groups, supervised by Julia Hartmann.

Participant, **Vertex Operator Algebra** — Sep 2022 - Dec 2022

- Read about vertex operator algebras and its connections with moduli space of curves, supervised by Angela Gibney.

Mentee, **Penn Directed Reading Program** — Sep 2021 - May 2023

- Milnor numbers and their generalizations, mentored by Thomas Brazelton
- Algebraic geometry from an $\mathbb{A}^1$-viewpoint, mentored by Thomas Brazelton
- Enumerative Geometry and String Theory, mentored by Thomas Brazelton
- Enumerative Geometry, mentored by Thomas Brazelton

TALKS

eCHT Seminar on Algebraic Vector Bundles
Quillen's solution to Serre's problem — Sep 2023

Penn Geometry/Topology Grad Seminar
$\mathbb{A}^1$-Milnor numbers — March 2023
Quillen's work on the Algebraic K-theory of Finite Fields — Sep 2022

Reading Project Presentations
Polynomial roots and convex polyhedra — Apr 2023
Modules over Vertex Operator Algebras — Nov 2022
Excess Intersection in Enumerative Geometry — Apr 2022
Enumerative Geometry — Dec 2021

Class Presentations
Mackey Functors, MATH 520 Representation Theory — May 2022
Function Spaces, MATH 500 Topology — Dec 2021

TEACHING

TA for (Honors) Calculus, **University of Pennsylvania** Jan 2023 - May 2023
TA for Multi-Variable Calculus, **University of Pennsylvania** Sep 2022 - Dec 2022
TA for Bio Stats, **University of Pennsylvania** Jan 2022 - May 2022
TA for Single-Variable Calculus, **University of Pennsylvania** Sep 2021 - Dec 2021
TA for Discrete Math, **Smith College** Jan 2020 - May 2020

SERVICE

Board Member, **Association for Women in Math** April 2023 - present *Board Member,* **Penn Undergraduate Math Society** Sep 2022 - May 2023 *Board Member,* **Association for Women in Math** Sep 2022 - May 2023

AWARDS & FELLOWSHIPS

McCormick Fellowship, **The University of Chicago** Fall 2023
Departmental Good Teaching Award, **University of Pennsylvania** Fall 2022
Second Prize, Class of 1880 Prize, **University of Pennsylvania** Apr 2021

LANGUAGES

Mandarin (Native), English (Advanced), French (Intermediate)