Zhijia Zhang

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`https://zhijiazhangz.github.io`

Education

New York University   **New York, NY**
Ph.D. candidate in Mathematics   2021 – present

New York University Shanghai   **Shanghai, China**
B.S. in Honors Mathematics   2017 – 2021

Publications (in reverse chronological order)

1. Rationality of forms of $\overline{\mathcal{M}}_{0,n}$
   with B. Hassett and Yu. Tschinkel
   to appear in *Journal of the London Mathematical Society*, 35 pp.

2. Equivariant geometry of singular cubic threefolds
   with I. Cheltsov and Yu. Tschinkel
   Forum of Mathematics. Sigma **13**: e9, 52 pp., 2025.

3. Equivariant geometry of the Segre cubic and the Burkhardt quartic
   with I. Cheltsov and Yu. Tschinkel
   Selecta Mathematica **31**(1):7, 36 pp., 2025.

4. Equivariant birational geometry of linear actions
   with Yu. Tschinkel and K. Yang
   EMS Surveys in Mathematical Sciences **11**(2), 235–276, 2024.

5. Combinatorial Burnside groups
   with Yu. Tschinkel and K. Yang
   Research in Number Theory **8**(2):33, 17 pp., 2022.

Preprints

6. Rationality of singular cubic threefolds over $\mathbb{R}$
   with I. Cheltsov and Yu. Tschinkel, 27 pp., *submitted* (2024)

7. Computing the equivariant Brauer group
   with A. Pirutka, 40 pp., *submitted* (2024)

8. Birational invariants of volume preserving maps
   with K. Loginov, 34 pp., *submitted* (2024)

9. Stable equivariant birationalities of cubic and degree 14 Fano threefolds
   with Yu. Tschinkel, 22 pp., *submitted* (2024)

10. Modular symbols and equivariant birational invariants
    18 pp., *submitted* (2024)

11. Equivariant geometry of singular cubic threefolds, II
    with I. Cheltsov, L. Marquand and Yu. Tschinkel, 51 pp., *submitted* (2024)

Other writing

1. Equivariant geometry of singular cubic threefolds, *ZAG report*, 5 pp., (2024)

Awards

Wilhelm T. Magnus Memorial Prize, Courant Institute of Mathematical Sciences *for significant contributions to the Mathematical Sciences*	2024
MacCracken Doctoral Fellowship, NYU	2021–2026

Conference talks

University of Miami, New Developments of Birational Geometry	2025
UCSD, Conference on K-stability and Moduli of Varieties (short talk)	2025
ICMS Edinburgh, Birational Geometry and Number Theory	2024
Boston College, Algebraic Geometry Northeastern Series (short talk)	2024
Princeton University, Monodromy and Its Applications (lightning talk)	2023

Seminar talks

Princeton University, Algebraic Geometry Seminar	2025 (upcoming)
University of Nottingham, Pure Mathematics Seminar	2024
Imperial College London, Algebraic Geometry Seminar	2024
NYU, Algebraic Geometry Seminar	2024

Conference attended and invited

Krakow, Poland, Structures and Symmetries in Algebraic Geometry	2025 (upcoming)
University of Hawaii, Polarized Varieties and Their Applications	2025 (upcoming)
CIRM, Marseille, Cremona Groups	2025 (upcoming)
University of Miami, New Developments of Birational Geometry	2025
UCSD, Simons Collaboration on Moduli of Varieties Conference	2025
ICMS, Edinburgh, Birational Geometry and Number Theory	2024
Simons Foundation, Conference on Arithmetic Geometry, Group Actions and Rationality Problems	2024
Stony Brook University, Conference on Higher Dimensional Geometry	2024
Boston College, Algebraic Geometry Northeastern Series (AGNES)	2024
Princeton University, Monodromy and Its Applications	2023
University of Miami, Higher Invariants in Equivariant and Geometric Topology	2023
Stony Brook University, Algebraic Geometry Northeastern Series (AGNES)	2023
Simons Foundation, Conference on Higher Dimensional Geometry **presented a poster**	2022
IAS/Park City Mathematics Institute, PCMI Graduate Summer School: Number Theory Informed by Computation	2022

Teaching

New York University

Teaching assistant, MATH-UA.0343 Algebra I	Spring 2025
Teaching assistant, MATH-UA.0348 Honors Algebra I	Fall 2024
Grader, MATH-GA.2140 Algebra II	Spring 2024, 2025
Instructor, Complex Variables Written Exam Workshop	January 2024
Grader, MATH-GA.2210 Introduction to Number Theory	Spring 2023, 2024
Grader, MATH-GA.2130 Algebra I	Fall 2022, 2023

Services

PhD student survey committee, NYU Courant	2024–2025
Co-organizer, Graduate Student and Postdoc Seminar, NYU Courant	2021–2023

Relevant skills

Languages: Chinese and English

Softwares: `Magma` (computer algebra system)