

Minghao Miao

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Research Interests

Complex Geometry, Algebraic Geometry. I am interested in K-stability, geometry of Fano manifolds and related topics.

Education

Nanjing University September 2021 – Present
Ph.D. Candidate in Mathematics, School of Mathematics
Nanjing, Jiangsu, China
Thesis Advisor: Professor Gang Tian

Nanjing University September 2017 – July 2021
B.S. in Mathematics, Kuang Yaming Honors School
Nanjing, Jiangsu, China

Experience

Rutgers University - New Brunswick May, 2025 – October, 2025
Visiting Scholar
Piscataway, NJ, USA

Beijing International Center for Mathematical Research (BICMR) September, 2021 – Present
Visitor
Beijing, China

Duke University August, 2019 – December, 2019
Visiting International Student Program
Durham, NC, USA

Publications and Preprints

Stable Degenerations of log Fano Fibration Germs
Joint work with Jiyuan Han, Lu Qi, Linsheng Wang and Tong Zhang, arXiv:2603.09269

On the volume of K-semistable Fano manifolds
Joint work with Chi Li, arXiv:2506.17420

Optimal Degenerations of K-unstable Fano threefolds
Joint work with Linsheng Wang, arXiv:2401.13999

Kähler-Ricci solitons on Fano threefolds with non-trivial moduli
Joint work with Linsheng Wang, Math. Ann. 392 (2025), no. 3, 4483–4523.

A Note On Kähler-Ricci Flow on Fano Threefolds
Joint work with Gang Tian, Peking Math. J. 8 (2025), no. 1, 191–199.

Research Talks

On the Volume of K-Semistable Fano Manifolds, Algebraic Geometry Seminar, Shanghai Center for Mathematical Sciences, Fudan University, 01/2026.

On the Volume of K-Semistable Fano Manifolds, Workshop on K-stability, East China Normal University, 01/2026.

On the Volume of K-Semistable Fano Manifolds, Geometric Analysis Seminar, Westlake University, 12/2025.

On the Volume of K-Semistable Fano Manifolds, Tianyuan Mathematical Center in Southeast China, Xiamen University, 12/2025.

On the Volume of K-Semistable Fano Manifolds, Algebraic Geometry Seminar, Johns Hopkins University, 10/2025.

On the Volume of K-Semistable Fano Manifolds, Mathematics Colloquium, Rutgers University-Newark, 09/2025.

Optimal Degenerations of K-unstable Fano Threefolds, Tianyuan Mathematical Center in Southeast China, Xiamen University, 04/2025.

Optimal Degenerations of K-unstable Fano Threefolds, Algebraic Geometry Seminar, East China Normal University, 11/2024.

Optimal Degenerations of K-unstable Fano Threefolds, Geometry Seminar, Tsinghua University, 03/2024.

Optimal Degenerations of K-unstable Fano Threefolds, Complex Analysis and Geometry Seminar, Rutgers University-New Brunswick, 02/2024.

Kähler-Ricci soliton and weighted Abban-Zhuang Estimate, Geometric Analysis Seminar, Westlake University, 12/2023.

Kähler-Ricci soliton and weighted Abban-Zhuang Estimate, Recent Progress on Analytic Minimal Model Program, Tianyuan Mathematics Research Center, 10/2023.

Kähler-Ricci Flow on Fano Threefolds, National Workshop on Geometric Analysis, Xinjiang Normal University, 06/2023.

Kähler-Ricci Flow on Fano Threefolds, Geometric Analysis Seminar, Westlake University, 12/2022.

Teaching Experience

Teaching Assistant: Calculus I

Nanjing University

Fall 2025

Teaching Assistant: Calculus I

Nanjing University

Fall 2024

Reference Professor

- Supervisor: Prof. **Gang Tian**, email: gtian@math.pku.edu.cn