

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 <i>Ph.D. Candidate in Mathematics, School of Mathematics</i> Thesis Advisor: Professor Gang Tian	September 2021 – Present <i>Nanjing, Jiangsu, China</i>
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Nanjing University <i>B.S. in Mathematics, Kuang Yaming Honors School</i>	September 2017 – July 2021 <i>Nanjing, Jiangsu, China</i>
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Experience

Rutgers University - New Brunswick <i>Visiting Scholar</i>	May, 2025 – October, 2025 <i>Piscataway, NJ, USA</i>
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Beijing International Center for Mathematical Research (BICMR) <i>Visitor</i>	September, 2021 – Present <i>Beijing, China</i>
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Duke University <i>Visiting International Student Program</i>	August, 2019 – December, 2019 <i>Durham, NC, USA</i>
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Publications and Preprints

The sharp volume gap for Kähler manifolds with positive Ricci curvature

Joint work with Chi Li, Kewei Zhang, arXiv:2608.08193

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. Accepted by Adv. Math. , 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

The sharp gap of volume for Kähler manifolds with positive Ricci curvature, Workshop on AI & AG, East China Normal University, 07/2026.

On the Volume of K-Semistable Fano Manifolds, Morningside Center of Mathematics (MCM), Chinese Academy of Sciences (CAS), 06/2026.

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