Minghao Miao

minghao.miao@smail.nju.edu.cn

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

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

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

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

Publications and Preprints

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 Univeristy, 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