

Yujie Luo

CONTACT INFORMATION

National University of Singapore
Department of Mathematics
10 Lower Kent Ridge Road
Singapore 119076, Singapore
Email: lyj96@nus.edu.sg
Personal webpage: <https://scheme96.github.io/>

EDUCATION

Johns Hopkins University

Ph.D. in Mathematics, August 2018-February 2023.

- PhD Thesis: [The minimal log discrepancy and its applications in birational geometry](#)
- Advisor: Professor [Chenyang Xu](#), Co-Advisor: Professor [Jingjun Han](#).

University of Science and Technology of China (USTC)

B. Sc. in Mathematics, August 2014-June 2018.

- Undergrad Thesis: Dirichlet's problem for the complex Monge-Ampère operator.
- Advisor: Professor [Xiangyu Zhou](#).

EMPLOYMENT

National University of Singapore

Peng Tsu Ann Assistant Professor, August 2023-now.

RESEARCH INTERESTS

Algebraic Geometry.

PUBLICATIONS & PREPRINTS

- *Essential dimensions of polarized endomorphisms of abelian varieties* (joint with Keiji Oguiso and De-Qi Zhang). Preprint. [[arxiv](#)]
- *Morphisms from a very general hypersurface* (joint with Yongnam Lee and De-Qi Zhang). *Pure Appl. Math. Q.* (special issue in honor of James McKernan's 60th birthday).
- *Jordan property for automorphism groups of compact varieties* (joint with Sheng Meng and De-Qi Zhang). *EM Surv. Math. Sci.* (to appear).
- *ACC for minimal log discrepancies of terminal threefolds* (joint with Jingjun Han and Jihao Liu). *Adv. in Math.*, **480** (2025), Part A.
- *On boundedness of divisors computing minimal log discrepancies for surfaces* (joint with Jingjun Han). *J. Inst. Math. Jussieu*, **22**(6) (2023), 2907-2930.
- *Shokurov's conjecture on conic bundles with canonical singularities* (joint with Jingjun Han and Chen Jiang). *Forum Math. Sigma*, **10**, E38.
- *Global ACC for foliated threefolds* (joint with Jihao Liu and Fanjun Meng). *Trans. Amer. Math. Soc.*, **376** (2023), 8939-8972.
- *A simple proof of ACC for MLD's for surfaces* (joint with Jingjun Han). *Acta Math. Sin. (Engl. Ser.)*, **40** (2024), 425-434.
- *Second largest accumulation point of minimal log discrepancies in dimension 3* (joint with Jihao Liu). Preprint, to appear in J. Pure. Appl. Algebra. [[arxiv](#)]

INVITED TALKS

- *Essential dimensions of polarized endomorphisms of abelian varieties*, [Algebraic Geometry in East Asia](#), November 13, 2025.
- *Boundedness of divisors computing minimal log discrepancies and ACC conjecture for MLDs*, [Algebraic Geometry in East Asia](#), November 9, 2023.
- *Shokurov's conjecture on conic bundles with canonical singularities*, [Algebraic Geometry seminar at Johns Hopkins University](#), October 11, 2022.

- *ACC conjecture for minimal log discrepancies and its applications in birational geometry*, **Algebraic Geometry seminar at Northwestern University**, October 5, 2022.
- *Second largest accumulation point of minimal log discrepancies of threefolds*, Short talks in **MPS Conference on Higher Dimensional Geometry**, August 22-26, 2022.
- *Shokurov's conjecture on conic bundles with canonical singularities*, **USTC NTAG 1-st**, April 13, 2021.
- *Shokurov's conjecture on conic bundles with canonical singularities*, **Morningside Center of Mathematics**, January 13, 2021.
- *On boundedness of divisors computing minimal log discrepancies for surfaces*, Short talks in **Simons conference-Rationality**, July 30, 2020.
- *On boundedness of divisors computing minimal log discrepancies for surfaces*, Algebraic Geometry Seminar (Online), The University of Tokyo, July 26, 2020.

LECTURES AND SEMINAR TALKS

- *Negative curves on \mathbf{P}^2 blowing up some points*, **National University of Singapore Geometry and Topology Seminar**.
- *Four lectures on the resolution of singularities*, **Reading Workshop: Boundedness and Resolution at SCMS Fudan, 2021 summer**.
- *Princeton preprint seminar*, **Logarithmic base change theorem and smooth descent of positivity of log canonical divisor**.

VISITINGS

Graduate

Nov 2023–Dec 2023	Department of Mathematics at East China Normal University
Jan 2022–Feb 2023	Department of Mathematics at Princeton University
Jul 2021–Aug 2021	SCMS at Fudan University
Oct 2020–Jul 2021	BICMR at Peking University

Undergraduate

Oct 2017–May 2018	Chinese Academy of Sciences
Jul 2017–Oct 2017	University of California, Los Angeles

HONORS AND AWARDS

University of Science and Technology of China

2018	Outstanding Undergraduates
2015 & 2016 & 2017	China National Scholarship
2017	Prize of Hua Loo-Keng Talent Program in Mathematics
2015 & 2016 & 2017	Scholarship of Hua Loo-Keng Talent Program

TEACHING EXPERIENCE

National University of Singapore

2025 Spring	Instructor, Algebraic Geometry of Curves and Surfaces MA4273
2024 Spring & Fall	Instructor, Multivariable Calculus MA2104
2023 Fall	Instructor, Algebraic Geometry MA5208 (Graduate Course)

Johns Hopkins University

2022 Summer	Teaching assistant, Calculus III
2020 Fall–2021 Fall	Teaching assistant, Linear Algebra
2020 Spring	Teaching assistant, Calculus II
2019 Fall	Teaching assistant, Linear Algebra

University of Science and Technology of China

2017 Fall

Teaching assistant, Functional Analysis