# Lingyao Xie

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### Education

- 2019–Present University of Utah, Salt Lake City, UT, United States Doctoral Student, Advisor: *Christopher D. Hacon Research*: Minimal Model Program, birational geometry
- 2015 2019 Fudan University, Shanghai, China Bachelor Student, Advisor: Meng Chen

### Research Interests

Algebraic Geometry (Birational geometry):

- Minimal Model Program and its applications (including MMP in positive and mixed char).
- Counterexamples in positive characteristic.
- Semi-ampleness Conjecture in Canonical bundle formula.
- Toric variety.

#### **Publications and Preprint**

- 1. Contraction theorem for generalized pairs, in Preprint.
- 2. Semi-ampleness of generalized pairs, with Jihao Liu, arXiv:2210.01731
- 3. Infinitesimal structure of log canonical thresholds, with Jihao Liu, and Junfan Meng, arXiv:2209.11369.
- 4. Relative Nakayama-Zariski decomposition and minimal models of generalized pairs, with Jihao Liu, arXiv:2207.09576.
- 5. **On the fixed part of pluricanonical systems for surfaces**, with Jihao Liu, arXiv:2202.11260, To appear in Math. Nachr.
- 6. **On generalized Ic pairs with b-log abundant nef part**, with Junpeng Jiao, and Jihao Liu, (Appendix by Jingjun Han), arXiv:2202.11256.
- 7. On the existence of flips for threefolds in mixed characteristic (0,5), with Qingyuan Xue, arXiv:2201.08208.
- 8. On the termination of the MMP for semi-stable fourfolds in mixed characteristic, with Qingyuan Xue, arXiv:2110.03115, to appear in Michigan Mathematical Journal.
- 9. Rational nef and anti-nef polytopes are not uniform, arXiv:2103.15057.

- 10. Number of singular points on projective surfaces, with Jihao Liu, arXiv:2103.04522.
- 11. Divisors computing minimal log discrepancies on Ic surfaces, with Jihao Liu, arXiv:2101.00138.

## **—** Conference and Seminar Talks

1. On the fixed part of pluricanonical systems for surfaces, Algebraic Geometry Seminar (online), Fudan University, China, Mar 10, 2022.

## Teaching

#### 2019–Present Instructor, University of Utah.

- Math 1220, Calculus II, 2022 Fall.
- Math 1220, Calculus II, 2021 Fall.
- Math 1050, College Algebra, 2020 Fall.