Zixuan Zhu

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Education

University of Münster Münster, Germany
Ph.D. student in Mathematics (Mathematical Logic) since March 2024 Funded by a CSC Scholarship.
Expected Ph.D. completion: Summer 2027.
Supervisor: Martin Hils.

Université de Paris (Université Paris Cité) Paris, France
Master's degree in Mathematics, 2021–2023
M1 Mathématiques et Applications (2021–2022);
M2 Mathématiques fondamentales (2022–2023) Funded by the FSMP Master's Fellowship.

University of Science and Technology of China Hefei, China
B.S. in Mathematics, June 2021. School of the Gifted Young.

Research Interests

Model theory, stability and simplicity theory, imaginaries, pairs of models, and model theory of fields.

Preprints

- Zixuan Zhu. **Rank and Independence of Imaginaries in Proper Pairs of ACF**, 2026.
- Zixuan Zhu. **Geometric classification of imaginaries in pseudofinite fields**, 2026.

Previous Research Projects

Definable groups in beautiful pairs Spring 2023
Master's thesis, Université Paris Cité. Supervisor: Elisabeth Bouscaren (CNRS).

Dirichlet's theorem on primes in arithmetic progressions Spring 2022
Initiation à la recherche, Université Paris Cité. Supervisor: Marc Hindry (IMJ-PRG).

Congruent Number Problem Spring 2021
Undergraduate dissertation, USTC. Supervisor: Yongqi Liang.

Arithmetic of Elliptic Curves Spring 2020
Undergraduate Innovative Research Program, USTC. Supervisor: Yongqi Liang.

Research Visits

- **Université Claude Bernard Lyon 1**, France (planned) Feb 2027
- **University of Notre Dame**, USA 23 Feb–10 Apr 2026
  Host: Anand Pillay.
  – Ongoing project: *Imaginaries in pairs*, with Prof. Anand Pillay.

Teaching Experience

- **Theory of Computation**, University of Münster Winter 2026-27
  Teaching assistant, lecturer: Martin Hils (110 students).
- **Model Theory**, University of Münster Winter 2025-26
  Tutor; lecturer: Martin Hils.
- **Modern Algebra**, USTC Spring 2020
  Tutor; lecturer: Yihuang Shen (112 students);
  worked with two other tutors.

Invited Seminar Talks

- **Oberseminar Logik**, University of Bonn (planned) 30 Nov 2026
- **Oberseminar: Mathematische Logik**, University of Freiburg 16 Jun 2026
- **Model Theory Seminar**, University of Notre Dame 24 Mar 2026
- **Logic Seminar**, University of Illinois Chicago 17 Mar 2026
- **Model Theory Seminar**, UC Berkeley 11 Mar 2026
- **Fudan Logic Student Seminar**, Fudan University 25 Mar 2025

Invited Conference Talks

- **Recent developments in the model theory of fields**
  Manchester, UK (planned) 28 Jun–2 Jul 2027
- **Tsinghua Reunion Conference**, Beijing, China 28 Jun–1 Jul 2025

Contributed Conference Talks

- **Colloquium Logicum 2026**, Würzburg, Germany 21–24 Sep 2026

Other Conferences and Worshops

- **Geometry and Combinatorics: The Model Theoretic Perspective**
  Oberwolfach Workshop, Germany 3–8 May 2026
  Invited participant.
- **Recent Applications of Model Theory**
  IMS, National University of Singapore 16–27 Jun 2025
  Poster on additive rank for imaginaries in beautiful pairs of ACF.
- **Model Theory and Applications to Groups and Combinatorics**
  CIRM, Luminy, France 30 Sep–4 Oct 2024

Seminar Organization

Gemeinsames Seminar Algebra und Modelltheorie (GeSAMT) Apr 2026

Organized the Bonn–Münster–Düsseldorf GeSAMT meeting in April 2026.

Seminar on Set Theory Jan–May 2025

Co-organized an online seminar based on Kunen's *Set Theory*, covering topics from basic axioms to forcing, with participants from Paris, Beijing, and Münster.

Languages

Chinese (native); English (fluent); French (intermediate);
German (elementary).

Other Activities

Bridge. Competitive player. Represented Germany at the 2024 European Youth Championship and the 2025 World Youth Championship.