

# ZOU, HAITAO

33615, Bielefeld, Germany  
hzou[at]math.uni-bielefeld.de

*Last Update: 2025/4/01*

## EDUCATION

---

<b>Fudan University, Shanghai, China</b> Ph.D, Pure Mathematics, Shanghai Center of Mathematical Sciences. Advisor: Zhiyuan Li	<i>Sep. 2021 - Jun. 2023</i>
<b>Fudan University, Shanghai, China</b> Master of Science, Pure Mathematics, School of Mathematical Science. Advisor: Zhiyuan Li	<i>Sep. 2017 - Jun. 2021</i>
<b>Sichuan University, Chengdu, Sichuan, China</b> Bachelor of Science, Pure and Applied Mathematics Mentor: Xiaojun Chen	<i>Sep. 2012 - Jul. 2017</i>

## PROFESSIONAL POSITIONS

---

<b>Universität Bielefeld, Germany</b> Post-Doc, Mentor: Charles Vial SFB-TRR 358, C8, " <b>Integral Structures in Geometry and Representation Theory</b> "	<i>2024 - 2026</i>
--	--------------------

## RESEARCH INTERESTS

---

- Algebraic geometry:
  - ★ irreducible symplectic varieties in positive characteristic
  - ★ derived category of schemes
  - ★ moduli of (twisted) sheaves
  - ★ ...
- Arithmetic geometry and applications of algebraic topology on it:
  - ★  $p$ -adic Hodge theory
  - ★ orthogonal Shimura varieties and their integral canonical models
  - ★ ...

## PUBLICATIONS AND PREPRINTS

---

1. **Supersingular O'Grady's varieties of dimension six** (with Lie Fu and Zhiyuan Li), *Int. Math. Res. Not.*, 2022, [arXiv:2009.10959](#).
2. A note on Fourier-Mukai partners of abelian varieties over positive characteristic fields (with Zhiyuan Li), *Kyoto J. Math.* 63 (4), 893-913, (November 2023), [arXiv:2107.05404](#).
3. Derived isogenies and isogenies for abelian surfaces (with Zhiyuan Li), *submitted*, [arXiv:2108.08710](#).
4. Unpolarized Shafarevich conjectures for hyper-Kähler varieties (with Lie Fu, Zhiyuan Li and Teppei Takamatsu), *To appear in Algebraic Geometry*, [arXiv:2203.10391](#).

5. On the derived category of varieties in positive characteristics (Master Thesis, in Chinese).
6. The arithmetic algebraic geometry of abelian varieties and hyper-Kähler varieties over general fields (Ph.D Thesis, in Chinese)

## PROJECTS IN PROGRESS

---

1. Rigidity of family of hyper-Kähler varieties (with Lie Fu, Zhiyuan Li and Teppei Takamatsu)
2.  $\ell$ -independence and  $p$ -adic monodormy of hyper-Kähler varieties (with Tetsushi Ito, Kazuhiro Ito, Teruhisa Koshikawa and Teppei Takamatsu)

## TEACHINGS

---

- 2020.2-2020.6, Modern Algebra III(H), TA
- 2019.9-2019.12, Algebraic Geometry, TA
- 2019.2-2019.7, Linear Algebra II, TA
- 2018.9-2018.12, Abstract Algebra I, TA
- 2018.2-2018.7, PDEs in Mathematical Physics, TA
- 2017.9-2017.12, Advanced Mathematics C (I), TA

## LANGUAGES

---

Working languages: Chinese & English.

I'm also a beginner in learning French.