




Xun Lin







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Affil Max Planck Institute for Mathematics, Bonn

Education

- 2014 – 2018  **Undergraduate student. Southern University Of Science And Technology, Shenzhen.** Mathematics.
- 2018 – 2023  **Ph.D, Yau Mathematical Sciences Center, Beijing.** Mathematics.
Supervisor: *Will Donovan*
- Sept 2023 – Sept 2025  **Posdoc, Max Planck institute for Mathematics, Bonn**

Preprints and publications

- 1 Jorgen Vold Rennemo, X., Lin, & Zhang, S. (n.d.). Categorical Torelli for Veronese double cone. In preparation.
- 2 Li, C., Lin, X., & Zhao, X. (n.d.). Fully faithful functors, skyscraper sheaves, and birational equivalence. To appear.
- 3 Lin, X., & Zhang, S. (n.d.[a]). Categorical Torelli theorem for Veronese threefolds and fourfolds. In preparation.
- 4 Lin, X., & Zhang, S. (n.d.[b]). Moduli of Higgs objects. In progress.
- 5 Lin, X., & Zhang, S. (n.d.[c]). Serre algebra, matrix factorization and categorical Torelli for hypersurfaces. To appear.
- 6 Lin, X., Zhang, S., & Xie, F. (n.d.). In preparation.
- 7 Sebastian, C.-M., Xianyu, H., Lin, X., Zhang, S., & Zhang, Z. (n.d.). Categorical Torelli theorem via equivariant Kuznetsov component of cubic threefolds. To appear.
- 8 Jacovskis, A., Lin, X., Liu, Z., & Zhang, S. (2022). Infinitesimal categorical Torelli theorems for Fano threefolds (submitted).  doi:10.48550/ARXIV.2203.08187
- 9 Jacovskis, A., Lin, X., Liu, Z., & Zhang, S. (2021). Categorical Torelli theorems for Gushel–Mukai threefolds (submitted).  doi:10.48550/ARXIV.2108.02946
- 10 Lin, X. (2021a). Noncommutative Hodge conjecture.  doi:10.48550/ARXIV.2102.03481
- 11 Lin, X. (2021b). On nonexistence of semi-orthogonal decompositions in algebraic geometry (submitted).  doi:10.48550/ARXIV.2107.09564
- 12 Lin, X. (2021c). Some remarks of Hochschild homology and semi-orthogonal decompositions.  doi:10.48550/ARXIV.2112.10312
- 13 Lin, X., & Yu, C. (2021). Indecomposability of the bounded derived categories of Brill–Noether varieties (submitted).  doi:10.48550/ARXIV.2111.10997

Honors

Awards

- 2021  **Ruolin prize for graduate student, Yau Mathematical Sciences Center, 2021.**

Honors (continued)

Scholarships

- **Basic scholarship of Tsinghua University for graduate students, 2018 - 2023.**
- **Yau MSC scholarship, 2018-2022.**

Talks

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| April 2023 | ■ Seminar of Advance Topics in Algebra and Geometry, Tsinghua university. A new proof of Torelli for cubic 4-folds. |
| March 2023 | ■ Geometric representation theory seminar, Tsinghua university. Infinitesimal categorical Torelli. |
| Nov 2022 | ■ Tsinghua preprint seminar. Hodge theory of combinatorics: an introduction. |
| Oct 2022 | ■ Tsinghua preprint seminar. Categorical Torelli. |
| July 2022 | ■ University of Warwick, online poster session of VBAC seminar. Indecomposibility of the bounded derived categories of Brill-Noether varieties. |
| April 2022 | ■ Stony Brook university, algebraic geometry seminar. Nonexistence of semi-orthogonal decompositions and sections of para-canonical systems. |
| March 2022 | ■ Cornell university, algebraic geometry seminar. Nonexistence of semi-orthogonal decompositions and sections of para-canonical systems. |
| Jan 2022 | ■ Southern University of Science and Technology, Shenzhen, Geometry and Topology seminar. Nonexistence of semi-orthogonal decompositions and sections of para-canonical systems. |
| Fall 2021 | ■ Tsinghua University, student seminar, VGIT and derived categories. |
| Sept 2021 | ■ Tata Institute of Fundamental Research, India. Nonexistence of semi-orthogonal decompositions and the base locus of para-canonical systems. |
| June 2021 | ■ Edinburgh University, Internal seminar. Derived categories of symmetric product of curves. |
| May 2021 | ■ Tsinghua University, Geometry representation seminar. Noncommutative Hodge conjecture. |
| March 2021 | ■ Southern University of Science and Technology, Shenzhen. Noncommutative Hodge conjecture. |
| | ■ Shanghaitech University, Shanghai. Noncommutative Hodge conjecture. |
| Fall 2019 | ■ Tsinghua University, student algebraic geometry seminar. Examples of Shimura varieties. |
| Spring 2019 | ■ Tsinghua University, student algebraic geometry seminar. Derived Torelli of K_3 surfaces. |

Talks (continued)

- Tsinghua University, student algebraic geometry seminar. Nonexistence of semi-orthogonal decompositions and sections of canonical bundle.
- Fall 2018 ■ Tsinghua University, student algebraic geometry seminar. Geometry of moduli space of sheaves on surfaces.

Teaching


- 2018 ■ General Topology, Teaching Assistant.
- Mathematical Analysis, Teaching Assistant.
- 2019 ■ Functional Analysis, Teaching Assistant.
- Calculus A, Teaching Assistant.
- 2020 ■ Algebraic geometry I, Teaching Assistant.
- 2022 ■ Algebra I in Qiuzhen college, Teaching Assistant.

Visiting and seminars


- Jan 22, 2024 - Jan 26, 2024 ■ University of Genova, Italy
- Dec 15, 2023 - Dec 20, 2023 ■ University of Oslo, Norway.
- Sept 2023 - Dec 2023 ■ Hausdorff Center for Mathematics, JTP program.
- July 26, 2023 - August 10, 2023 ■ Sichuan University, China
- July 10, 2023 - July 21, 2023 ■ Tsinghua University, China
- March 2022 - June 2022 ■ Cornell University.
- March, 2021 ■ Shanghai Technology University.
- Sept 2019 ■ Geometry of derived categories, Liverpool University, UK.
- May 2019 ■ Derived categories seminar in Sun Yat-Sen University, GuangZhou.
- Algebraic geometry for Young scholars in USTC, Hefei.

Languages

Native

 Cantonese, Madarin Chinese

Advanced

 English