

YUNPENG ZI

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RESEARCH INTERESTS

Cross-field of algebraic topology, differential geometry and data sciences, especially the applications of algebraic topology in the study of biology.

WORKING EXPERIENCE

Apr. 2022-Now

- Postdoc Researcher
- Postdoctoral Workstation: Beijing Institute of Mathematical Sciences and Applications
- Postdoctoral Research Station: Yau Mathematical Science Center, Tsinghua University
- Apr. 2022-Now
- Supervisor: Jie Wu (BIMSA) & Chenglong Yu (YMSC)

EDUCATION

Aug. 2016 - Jan. 2022

- Tsinghua University, Yau Mathematical Science Center
- Doctor of Philosophy in Mathematics
- Supervisor: Eduard Looijenga
- Dissertation: *Geometry of the Winger Pencil, Moduli and Monodromy*

Sep. 2012 - Jun. 2016

- JiLin University, School of Mathematics
- Bachelor Degree of Science in Mathematics

VISITING EXPERIENCE

Jan. 2020 - Jul. 2020

- University of Chicago
- Visiting student at Department of Mathematics (Under Supervision of Prof. Benson Farb)

PUBLICATIONS

1. Yunpeng Zi. Geometry of the Winger Pencil[J]. European Journal of Mathematics, 2021: 1074-1101.
2. Looijenga, Eduard, and Yunpeng Zi. "Monodromy and period map of the Winger pencil." Journal of the London Mathematical Society 107.4 (2023): 1351-1372.
3. Yunpeng Zi. "On the Monodromy and Period Map of the Winger Pencil." arXiv preprint arXiv:2301.00500 (2023).
4. Xiaoxi Lin, Yunpeng Zi, and Jie Wu. "New Aspects of Analyzing Amyloid Fibrils." arXiv preprint arXiv:2405.14370 (2024).
5. Xiaoxi Lin, Yunpeng Zi, Youqi Tao, Jie Wu and Cong Liu, "Topological and Geometrical Perspectives of TRANSTHYRETIN", (To be Announced)

**HONORS
& AWARDS**

- Tsinghua's Award in Honour of the People's Government of Jining City Oct.2020
- Tsinghua Scholarship for Overseas Graduate Studies Jan. 2020 - Jun. 2020
- Full Scholarship of Yau Mathematical Science Center 2018-2020
- The Second Class Award of the JiLin University Dec. 2015
- The Second Class Award of the JiLin University Oct. 2014
- The JiLin University's Award in Honour of the I.B. Group Korea May. 2014
- The First Class Award of the JiLin University Dec. 2013

**CONFERENCE
ATTENDED**

- Workshop on Topology and Its Applications to AI, Beijing Institute of Mathematical Sciences and Applications, May. 21 - 22, 2024, Invited Speaker
- Postdoc Workshop of BIMSA I, May 26, 2023, Speaker
- Postdoc Workshop of BIMSA II, Nov 17, 2022, Speaker
- Tsinghua Graduate Workshop, Nov 20, 2020, Speaker

**TEACHING
EXPERIENCE**

- Teaching Assistant of *Finite-size Effects in 2D QFT* (Graduate), Oct, 2023 - Dec. 2023
- Teaching Assistant of *Fibre Bundles, Characteristic Classes, and Index Theorems* (Graduate), Mar, 2023 - Jun. 2023
- Teaching Assistant of *Introduction to Bordism* (Graduate), Oct, 2022 - Dec. 2022
- Teaching Assistant of *Derived Algebraic and Differential Geometry* (Graduate), Apr, 2022 - June. 2022
- Teaching Assistant of *Analyze* (Undergraduate) Feb, 2019 - Jul. 2019
- Teaching Assistant of *Algebraic Geometry I* (Graduate) Sep, 2018 - Jan, 2019
- Teaching Assistant of *Linear Algebra II* (Undergraduate) Feb, 2018 - Jul. 2018
- Teaching Assistant of *Linear Algebra I* (Undergraduate) Sep, 2017 - Jan. 2018
- Teaching Assistant of *Linear Algebra II* (Undergraduate) Feb, 2017 - Jul. 2017
- Teaching Assistant of *Linear Algebra I* (Undergraduate) Sep, 2016 - Jan. 2017

**OTHER
EXPERIENCE**

- (Jul, 2018) Social Investigation in MengShu Eco-build Corp., Hohhot, Inner Mongolia, China. Studying the influence of environmental factors on different plants.
- (Jul, 2022) First prize for the work in organizing the ICBS.