Mingchong Li

School of Mathematical Sciences, Peking University

Personal homepage: https://elainamath.github.io/   Email: 2100010613@stu.pku.edu.cn

Education

Peking University	**Sep. 2021 – July 2025 (expected)**
B.S. Mathematics; Double Major in Economics	*Beijing, China*
Zhengzhou Foreign Language School	**Sep. 2018 – July 2021**
Math Competition Class	*Zhengzhou, Henan, China*

Research Interests

Algebraic Geometry and Complex Geometry, Algebraic topology, Number theory.

Research & Seminar Experiences

Seminar on Algebraic Geometry   Mar. 2024 – Jun. 2024

Advised by Prof. Qizheng Yin   *Peking University, China*

- Followed Arnaud Beauville – Complex Algebraic Surface.
- Ongoing...

Seminar on Algebraic Topology   Oct. 2023 – Apr. 2024

Peking University, China

- Followed Peter May – A Concise Introduction to Algebraic Topology.
- Studied a lot about homotopy theory and homology theory in algebraic topology (mainly Chapter 1 through 17 of the book.
- Gave some lectures on higher homotopy group and homology theory (mainly cellular homology and some homological algebra)

Seminar on Derived Category of Coherent Sheaves   Apr. 2023 – Dec. 2023

Organized by Prof. Bohan Fang   *Peking University, China*

- Followed Daniel Huybrechts – Fourier-Mukai Transforms in Algebraic Geometry.
- Gave some talk on triangulated category and derived category.

Seminar on Homological Algebra   Jun. 2023 – Aug. 2023

Peking University, China

- Followed Charles Weibel – an introduction to homological algebra.
- Studied some basic topics on homological algebra such as derived functor, spectral sequence and derived category. As an application we discussed cohomology of sheaves.
- Studied oriented to algebraic geometry.
- Created the seminar and gave most of the lectures in the process. Finally I gave some talks on derived category and sheaf theory.

Seminar on Complex Geometry   Apr. 2023 – Dec. 2023

Advised by Prof. Qizheng Yin   *Peking University, China*

- Followed Daniel Huybrechts – Complex Geometry, an introduction and Claire Voisin – Hodge Theory and Complex Algebraic Geometry.
- Studied the basic notion about complex geometry and Hodge theory.
- Gave some lectures about complex manifolds and some cohomology theory on complex manifold.

Seminar on Differential Forms in Algebraic topology   March. 2023 – Aug. 2023

Peking Univeristy, China

- Followed Raoul Bott and Loring Tu – Differential Forms in Algebraic Topology.
- Learned topics including de Rham cohomology, Cech cohomology and their comparison theorem, spectral sequence, characteristic class, etc.
- Gave some lectures on de Rham cohomology and Cech cohomology.

Honors and Awards

- Yizheng First Class Scholarship of Peking University (Faculty level) 2023
- XiWangXue Online Basic Mathematics Young Talent Support Program Scholarship 2023
- Three Good Student Pacesetter of Peking University 2023
- LingJunLingHang Scholarship 2022
- Three Good Student of Peking University 2022
- Gold Medal in the 36th China Mathematical Olympiad 2020

Selected Scores

Maths Courses	Grades	CS Courses	Grades
Moduli of Curve	96	Algebraic Geometry I	95
Group and Representation Theory	98	Functional Analysis	96
Geometry	94	Real analysis	91
Ordinary Differential Equation	92	Quantum Information	92
Mathematical Analysis I, II, III	94.2 (average)		

Activity Experiences

Member of Peking University Hiker's Association **Feb. 2024 to date**

School of Mathematic Science basketball Team Player **Sep. 2021 to Dec. 2021**

Standardized Language Tests

- TOEFL iBT, Total 94 (Reading 27, Listening 22, Speaking 21, Writing 24)