



## Bowen Liu

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🌐 bowenl-math.github.io

### EDUCATION

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- **Yau Mathematical Sciences Center, Tsinghua University** 2022/09 - Ongoing  
*PhD. Candidate in Algebraic Geometry*
- **Beijing International Center for Mathematical Research, Peking University** 2022/02 - 2022/07  
*Enhanced Program for Graduate Study (2022)*
- **Mathematics Department, Shandong University** 2018/09 - 2022/07  
*Bachelor in Information and Computing Science*

### RESEARCH INTEREST

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My research interests focus on vector bundles and Higgs bundles, such as non-abelian Hodge theory, stability condition, classifications of vector bundle and so on.

### PREPRINTS

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- **On Lan-Sheng-Zuo's conjecture** arXiv:2505.15142  
*Joint work with Mao Sheng*
- **Relative Stability Conditions on Triangulated Categories** arXiv:2411.01502  
*Joint work with Dongjian Wu*

### SEMINARS, TALKS

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- **Higgs bundle and related topics seminar** Spring 2025  
*Self-dual equations, stability of Higgs bundle and moduli space of Higgs bundle*
- **Chern numbers inequalities** 2024/05/12  
*Classical Bogomolov-Gieseker inequality, Miyaoka-Yau inequality*
- **Topics in Hodge theory** 2024/04/09  
*Hodge structure, variation of Hodge structures and differential geometry of Hodge bundles*
- **Algebraic de Rham complex** 2024/03/12  
*Comparison theorems,  $E_1$ -degeneration of Hodge to de Rham spectral sequence*
- **Toric geometry seminar** Fall 2023  
*Toric variety, Toric divisors, intersection theory on toric variety*
- **Advanced topics in complex geometry** 2023/06/08  
*Uniqueness of Kähler structure on projective spaces*
- **Principal bundle seminar** Spring 2023  
*Principal bundle and its geometry, applications in Chern-Weil theory*
- **Bott-Tu seminar** Fall 2022  
*Spectral sequences and its applications in homotopy theory*

### TEACHING EXPERIENCE

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- **Linear algebra** Spring 2025  
*Notes Taker*
- **Riemann surface** Fall 2024  
*Teaching Assistant*
- **Algebra2-H** Spring 2024  
*Teaching Assistant*
- **Review of Algebra1** Winter 2024  
*Lecturer*

– <b>Algebra1</b> <i>Teaching Assistant</i>	<i>Fall 2023</i>
– <b>Algebra2-H</b> <i>Teaching Assistant</i>	<i>Spring 2023</i>
– <b>Abstract Algebra</b> <i>Teaching Assistant</i>	<i>Fall 2022</i>
– <b>Algebra1-H</b> <i>Notes Taker</i>	<i>Fall 2022</i>