

## Work Experience

- 2023–Present **Peking University**, Beijing International Center for Mathematical Research.  
Postdoc, Mentor: Liang Xiao
- 2020–2021 **Fudan University**, School of Mathematical Sciences.  
Research Assistance, Mentor: Yijun Yao

## Education

- 2021–2023 **Tsinghua University**, Beijing, China.  
Ph.D. Mathematics, Advisor: Pin Yu
- 2014–2020 **Tsinghua University**, Yau Mathematical Sciences Center, Beijing, China.  
M.S. Mathematics, Advisor: Pin Yu
- 2010–2014 **Tsinghua University**, Beijing, China.  
B.S. Mathematics

## Research Interests

I mainly work on transcendental number theory. I am interested especially in odd zeta values,  $p$ -adic zeta values and multiple zeta values.

## Publications

5. Li Lai,  
*On the irrationality of certain 2-adic zeta values*,  
International Journal of Number Theory 21 (2025), no. 1, 207–235.  
[arXiv:2304.00816](#)
4. Li Lai, Jiong-Yue Li and Pin Yu,  
*On the rigidity of stationary charged black holes: small perturbations of the non-extremal Kerr-Newman family*,  
Journal of Differential Geometry 125 (2023), no. 3, 553–612.  
[arXiv:1911.10560](#)
3. Steven Charlton, Herbert Gangl, Li Lai, Ce Xu and Jianqiang Zhao,  
*On two conjectures of Sun concerning Apéry-like series*,  
Forum Mathematicum 35 (2023), no. 6, 1533–1547.  
[arXiv:2210.14704](#)
2. Li Lai and Li Zhou,  
*At least two of  $\zeta(5), \zeta(7), \dots, \zeta(35)$  are irrational*,  
Publicationes Mathematicae Debrecen 101/3–4 (2022), 353–372.  
[arXiv:2103.00904](#)
1. Li Lai and Pin Yu,  
*A note on the number of irrational odd zeta values*,  
Compositio Mathematica 156 (2020), no. 8, 1699–1717.  
[arXiv:1911.08458](#)

## Preprints

4. Li Lai,  
*A slight improvement on the Ball-Rivoal theorem*,  
arXiv:2407.14236
3. Li Lai and Johannes Sprang,  
*Many  $p$ -adic odd zeta values are irrational*,  
arXiv:2306.10393
2. Li Lai, Cezar Lupu and Derek Orr,  
*Elementary proofs of Zagier's formula for multiple zeta values and its odd variant*,  
arXiv:2201.09262
1. Li Lai,  
*On the largest prime divisor of  $n! + 1$* ,  
arXiv:2103.14894

## Awards and Honors

- 2012 Nianzeng Sun Mathematical Analysis Award (at Tsinghua University)
- 2010 51<sup>st</sup> International Mathematical Olympiad: Gold Medal

## Talks

- February 16, 2024 The 17th Young Mathematicians Conference on Zeta Functions  
At least two of  $\zeta(5), \zeta(7), \dots, \zeta(35)$  are irrational
- August 5, 2023 Zhejiang Sci-Tech University  
Many  $p$ -adic odd zeta values are irrational
- May 27, 2023 Anhui Normal University  
On the irrationality of certain 2-adic zeta values
- April 5, 2023 BICMR Number Theory Seminar  
On the irrationality of certain 2-adic zeta values
- January 9, 2023 East Asia Core Doctoral Forum in Mathematics (Online)  
At least two of  $\zeta(5), \zeta(7), \dots, \zeta(35)$  are irrational
- August 8, 2022 Conference on MZVs and Related Topics (Online)  
Linear forms in Riemann zeta values and MZVs
- July 12, 2022 BIMSA-YMSC Tsinghua Number Theory Seminar (Online)  
Elementary proofs of Zagier's formula for multiple zeta values and its odd variant
- March 21, 2022 Jiangxi Normal University

At least two of  $\zeta(5), \zeta(7), \dots, \zeta(35)$  are irrational

- March 12, 2022    Anhui Normal University  
Elementary proofs of Zagier's formula for multiple zeta values and its odd variant
- January 7, 2022    Learning Seminar on Multiple Zeta Values, YMSC&BIMSA  
Linear forms in Riemann zeta values and MZVs
- June 27, 2020    Webinar on APDE (Online)  
Recent progress on the irrationality of  $\zeta(2k+1)$ .

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## Seminar (Co)Organized

- Fall 2021–Spring 2022    Tsinghua-BIMSA Learning Seminar on Multiple Zeta Values, Tsinghua University

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## Teaching

- Fall 2024    Rational Functions and the Irrationality of Odd Zeta Values, Mini Course, Peking University
- Spring 2024    Advanced Mathematics B (2), Peking University
- Spring 2021    Rational Functions and the Irrationality of Odd Zeta Values, Short Course, Fudan University

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## Other Experiences and Activities

- 2017    Finisher of Columbia168 ULTRA-TRAIL<sup>®</sup> THREE GORGES (168 km trail running)
- Spring 2013    Exchange student at École Normale Supérieure, Paris, France