

Haoran Liang (梁浩然)

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Education

2024.06 –	Mathematics PhD , King's College London (aligned with LSGNT) London, United Kingdom advisors: Prof. Payman Kassaei and Prof. Fred Diamond, potential thesis topics: p-adic automorphic forms, the p-adic local Langlands program (group) mini project: The eigencurve at classical weight 1 points (with Lucie Gatzmaga), supervised by Prof. George Boxer
2024.02 – 2024.05	Visiting student, Xi'an Jiaotong University Xi'an, China
2023.10 – 2023.12	Visiting student, Morningside Center of Mathematics Beijing, China
2021.09 – 2023.10	Mathematics MSc. (Dist) , ETH Zürich Zürich, Switzerland advisor: Prof. Emmanuel Kowalski, thesis: automorphic forms on adèle groups GPA: 5.94/6.0
2020.01 – 2020.05	Visiting student, UC Berkeley California, USA
2018.07 – 2018.08	Visiting student, University of Alberta Alberta, Canada Excellence (group mini project on discrete dynamics)
2017.09 – 2021.06	Mathematics BSc. (Hons) , Xi'an Jiaotong University Xi'an, China thesis: (Algebraic) number fields and special cases of Fermat's last theorem, A+ supervised by: Prof. Ping Xi GPA: 4.02/4.3 average score: 92.28/100

Academic Experiences

• Talks

2025.09	Local geometry of the eigencurve, Y-RANT VII
TBD	Proof of Iwasawa Main Conjecture II, Iwasawa theory study group at LSGNT
TBD	Jacquet–Langlands correspondence, automorphic form study group
2025.07	From congruences between modular forms to eigenvarieties, eigenvarieties study Group
2025.07	Local geometry of the eigencurve, XJTU number theory seminar
2025.04	Hecke theory for $GL(2)$ and complements, automorphic form study group
2025.04	Prologue, or how Iwasawa theory enchanted me, Iwasawa theory study group at LSGNT
2025.01	O-minimality and Diophantine applications, London Junior Number Theory Seminar
2024.12	Geometry and algebra of BN-pairs, Bruhat–Tits study group at LSGNT
2023.09	Automorphic forms on adèle groups, XJTU basic notions seminar
2023.09	O-minimality and Diophantine applications, XJTU basic notions seminar
2023.02	From elliptic functions to modular curves: a heuristic story, graduate student

colloquium

- **Teaching assistance**

- 2024.09 – 2024.12 Advanced Algebra WS24/25, KCL (Dr. Alex Torzewski)
- 2024.09 – 2024.12 Basic Algebra WS24/25, KCL (Prof. Beth Romano)
- 2022.09 – 2022.12 Complex Analysis WS22/23, ETH Zürich (Prof. Emmanuel Kowalski)
- 2020.09 – 2021.01 Modern Algebra WS20/21, XJTU (Prof. Ping Xi)

- **Semester / course projects**

- 2022.10 – 2023.01 Modular curves and dimension formulae for certain spaces of modular forms
supervised by: Prof. Sarah Zerbes
- 2022.03 – 2022.06 The class number formula and beyond
supervised by: Prof. Claire Burrin
- 2022.07 Schoof's algorithm (for counting points on elliptic curves over finite fields)
course project for *Computations in Algebra & Arithmetic* by Prof. David Loeffler
- 2020.12 – 2021.02 A glimpse at classical algebraic geometry
supervised by Prof. Ping Xi
- 2020.01 – 2020.05 A Journey through combinatorics
(*directed reading program* at UC Berkeley) directed by: Yulia Alexandr
- 2019.06 – 2019.09 A unified approach for constructing cospectral (signed) graphs
supervised by: Prof. Wei Wang

- **Seminars, study groups**

- 2025.04 – Co-organizing an online [study group on automorphic forms](#)
- 2025.04 – Co-organizing a LSGNT informal study group on Iwasawa theory
- 2022.11 – 2023.08 Co-organizing a graduate student [colloquium](#) in number theory, geometry and representation theory, where participants give talks in turn to present their recent projects, theses or topics from advanced courses.

- **Conferences, summer schools, and workshops attended**

- 2025.09 [Young Researchers in Algebraic Number Theory VII](#), University of Nottingham
- 2025.03 [Arizona Winter School 2025: Representation of p-adic Groups](#), University of Arizona, Tucson
- 2024.09 [School on Hodge Theory and Shimura Varieties](#), University of Duisburg-Essen
- 2024.09 [Representations of p-adic Groups and the Langlands correspondence, in honor of Colin Bushnell](#), King's College London
- 2024.08 [Young Researchers in Algebraic Number Theory VI](#), University of Oxford
- 2024.04 [2024 Jinling Number Theory and arithmetic Geometry Conference](#), Nanjing University
- 2023.11 [Langlands Correspondence, Automorphic Representations, and Related Topics](#), Wuhan University
- 2023.06 [Workshop on "Arithmetic Statistics in Automorphic Forms and Analytic Number Theory"](#), EPF Lausanne
- 2023.05 [Summer School on High-dimensional Expanders](#), Ghent University
- 2022.08 [Modular Forms in Number Theory and Beyond](#), Bielefeld University

2021.07	Number Theory Summer School , Xi'an Jiaotong University
2020.08	Summer School on Differential Geometry , Peking University

Extra-curriculum Activities

2020.09 – 2021.06	Student Association of Cultural & Historical Relic Fans, XJTU
2017.09 – 2020.06	Fenghuang Student Reading Club, XJTU

Honors

2022	ETH Scholarship for academic year 2022/23
2018, 2019, 2020	Second Prize of Zhufeng Scholarship (XJTU)
2018, 2019, 2020	Outstanding Student (XJTU)
2018	First Prize of Mathematical Modeling Competition of XJTU