Pengcheng Zhang

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Vivatsgasse 7
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Germany

EDUCATION

Max Planck Institute for Mathematics, Bonn — Jan 2022–present
Doctoral student, supervised by Don Zagier

St John's College, University of Oxford, Oxford — Oct 2017–Jun 2021
Master of Mathematics in Mathematics

RESEARCH VISIT

- Louisiana State University, Baton Rouge, hosted by Ling Long — 29 Mar–4 Apr, 2025
- The Abdus Salam International Centre for Theoretical Physics, Trieste, hosted by Vasily Golyshev and Don Zagier — 30 Jun–8 Jul, 2024
- The University of Hong Kong, Hong Kong, hosted by Ben Kane — 19–23 Feb, 2024
- SUSTech International Center for Mathematics, Shenzhen, hosted by Don Zagier — 22 Nov–17 Dec, 2021

PUBLICATIONS AND PREPRINTS

[1] Pengcheng Zhang. *The 2-complexity of even positive integers.* Integers, 24:Paper No. A109, 11, 2024.

[2] Benjamin Bedert, George Cooper, Thomas Oliver, and Pengcheng Zhang. *Twisting moduli for* GL(2). J. Number Theory, 217:142–162, 2020.

[3] Pengcheng Zhang. *On converse theorems for Hilbert modular forms assuming unramified twists.* preprint on arXiv. accepted by the Quarterly Journal of Mathematics.

[4] Tian Wang and Pengcheng Zhang. *Ordinary primes for* GL_2*-type abelian varieties and weight* 2 *modular forms.* preprint on arXiv.

[5] Pengcheng Zhang. *The complexity of Ford domains of* $\Gamma_0(N)$. preprint on arXiv.

TALKS IN RESEARCH SEMINARS/CONFERENCES

- *Elliptic curves and meromorphic modular forms* in International Workshop on Automorphic Forms at SwissMAP Research Station, Les Diablerets — 4 Sep, 2025
- *Coefficients of modular forms modulo (powers of) primes* in Participative Learning Seminar on Any Number Theory (PLeaSANT) at Max Planck Institute for Mathematics, Bonn — 26 May, 2025
- *Elliptic curves and coefficients of meromorphic modular forms* in Oberseminar Zahlentheorie at University of Cologne, Cologne — 14 Apr, 2025
- *Ordinary primes of weight* 2 *modular forms* in the South Regional Number Theory Conference 2025 at Louisiana State University, Baton Rouge — 29 Mar, 2025
- *Elliptic curves and coefficients of meromorphic modular forms* in Oberseminar Anlytic Number Theory and Automorphic Forms at University of Bonn, Bonn — 21 Nov, 2024
- *Converse theorems for Hilbert modular forms* in the 36th Automorphic Forms Workshop at Oklahoma State University, Stillwater — 23 May, 2024
- *A converse theorem for Hilbert modular forms* in Oberseminar Anlytic Number Theory and Automorphic Forms at University of Bonn, Bonn — 9 Nov, 2023

- *C^*-algebras arising from subsemigroups of $\mathbb{Z}^+$* in Oxford Functional Analysis Seminar at University of Oxford, Oxford — 18 Sep 2020
- *Converse theorems for automorphic forms* in St John's College Mathematics Seminar (with Benjamin Bedert) at St John's College, University of Oxford, Oxford — 5 Mar, 2020

Talks in learning seminars/study groups

- *Hecke operators on p-adic modular forms* in the IMPRS Seminar on modular forms at Max Planck Institute for Mathematics, Bonn — 19 Nov, 2024
- *Orthogonal groups and their symmetric spaces* in the Study Group on Rigid Meromorphic Cocycles for Orthogonal Groups at Max Planck Institute for Mathematics, Bonn — 24 Oct, 2024
- Several talks in Exponential Sum Learning Seminar at Max Planck Institute for Mathematics, Bonn — 17 Nov, 15 Dec, 2023, and 12 Jan, 2024
- *L-functions and/in Selberg Class* in the IMPRS Seminar on L-functions at Max Planck Institute for Mathematics, Bonn — 24 Jan, 2023

Conferences, Workshops, Research Schools Attended

- **International Workshop on Automorphic Forms** at SwissMAP Research Station, Les Diablerets — 31 Aug–5 Sep, 2025
- **Conference on Progress and Emergent Theories in Zeta and L-Functions** at Max Planck Institute for Mathematics, Bonn — 21–25 Jul, 2025
- **33èmes Journées Arithmétiques** at University of Luxembourg, Esch-sur-Alzette — 30 Jun–4 Jul, 2025
- **Asymptotic Counting and L-Functions** at Max Planck Institute for Mathematics, Bonn — 5–9 May, 2025
- **Southern Regional Number Theory Conference 2025** at Louisiana State University, Baton Rouge — 29–30 Mar, 2025
- **The Legacy of John Tate, and Beyond** at Harvard University, Cambridge — 17–21 Mar, 2025
- **Arithmetic Geometry in Shenzhen** at Southern University of Science and Technology, Shenzhen — 16–20 Dec, 2024
- **Arithmetic, Geometry, Space and Time** at International Centre for Mathematical Sciences, Edinburgh (online attendance) — 25–29 Nov, 2024
- **New Advances in the Langlands Program: Geometry and Arithmetic** at University of Oxford, Oxford — 30 Sep–4 Oct, 2024
- **School on Hodge Theory and Shimura Varieties** at University of Duisburg-Essen, Essen — 23–27 Sep, 2024
- **Conference on Arithmetic Geometry** at Max Planck Institute for Mathematics, Bonn — 22–26 Jul, 2024
- **Modular Forms, L-functions, and Eigenvarieties** at École Normale Supérieure, Paris — 18–21 Jun, 2024
- **The 36th Automorphic Forms Workshop** at Oklahoma State University, Stillwater — 20–24 May, 2024
- **Shanks Conferences on L-functions and Automorphic Forms** at Vanderbilt University, Nashville — 13–16 May, 2024
- **Periods in Physics, Number Theory and Algebraic Geometry** at Hausdorff Research Institute for Mathematics, Bonn — 22–26 Apr, 2024
- **International Conference on Modular Forms and q-Series** at University of Cologne, Cologne — 11–15 Mar, 2024
- **Modular Curves and their Arithmetic** at University of Warwick, Coventry — 6–8 Dec, 2023
- **MM(P): Mahler Measures of Polynomials** at Radboud University, Nijmegen — 24–27 Oct, 2023
- **Modular Forms and Arithmetic Geometry** at TU Darmstadt, Darmstadt — 18–22 Sep, 2023
- **Young Number Theorists in Bonn** at Max Planck Institute for Mathematics, Bonn — 11–15 Sep, 2023
- **Arithmetic of automorphic forms** at Laboratoire de Mathématiques d'Orsay, Orsay — 4–8 Sep, 2023
- **Early Number Theory Researchers Workshop 2023** at University of Bielefeld, Bielefeld — 23–25 Aug, 2023

- **Summer School on the Arithmetic of the Langlands Program** at University of Bonn, Bonn
  8–12 May, 2023
- **Arithmetic Statistics, Automorphic Forms, and Ergodic Methods** at Max Planck Institute for Mathematics, Bonn
  24–28 Apr, 2023
- **Special values of L-functions** at Paderborn University, Paderborn
  13–17 Mar, 2023
- **Conference on Motives and Automorphic Forms** at Max Planck Institute for Mathematics, Bonn
  6–10 Mar, 2023
- **Number theory meets p-adic representations** at University of Münster, Münster
  13–17 Feb, 2023
- **Luxembourg Number Theory Day 2022** at University of Luxembourg, Esch-sur-Alzette
  16 Dec, 2022
- **Early Number Theory Researchers Workshop 2022** at TU Darmstadt, Darmstadt
  26–28 Oct, 2022

OTHER EXPERIENCES

- Referee for Results in Mathematics and Proceedings of the American Mathematical Society
  2025
- Senior Counselor at Ross Mathematics Program (Ross/Asia) in Huangshan
  9 Jul–10 Aug, 2018
- Junior Counselor at Ross Mathematics Program (Ross/Asia) in Huangshan
  10 Jul–11 Aug, 2017

LANGUAGES

Chinese, English