

# Pengcheng Zhang

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Vivatsgasse 7  
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Germany

## EDUCATION

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### Max Planck Institute for Mathematics

Doctoral student, supervised by Don Zagier

Bonn, Germany

Jan 2022–present

### St John's College, University of Oxford

Master of Mathematics in Mathematics

Oxford, UK

Oct 2017–Jun 2021

## RESEARCH VISIT

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### Lousiana State University

Hosted by Ling Long

Baton Rouge, US

29 Mar – 4 Apr, 2025

### The Abdus Salam International Centre for Theoretical Physics

Hosted by Vasily Golyshev and Don Zagier

Trieste, Italy

30 Jun–8 Jul, 2024

### The University of Hong Kong

Hosted by Ben Kane

Hong Kong, China

19–23 Feb, 2024

### SUSTech International Center for Mathematics

Hosted by Don Zagier

Shenzhen, China

22 Nov–17 Dec, 2021

## PUBLICATIONS AND PREPRINTS

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

## TALKS IN RESEARCH SEMINARS/CONFERENCES

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- *Elliptic curves and coefficients of meromorphic modular forms* in Oberseminar Zahlentheorie at University of Cologne  
14 Apr, 2025
- *Ordinary primes of weight 2 modular forms* in the South Regional Number Theory Conference 2025 at Louisiana State University  
29 Mar, 2025
- *Elliptic curves and coefficients of meromorphic modular forms* in Oberseminar Analytic Number Theory and Automorphic Forms at University of Bonn  
21 Nov, 2024
- *Converse theorems for Hilbert modular forms* in the 36th Automorphic Forms Workshop at Oklahoma State University  
23 May, 2024

- *A converse theorem for Hilbert modular forms* in Oberseminar Analytic Number Theory and Automorphic Forms at University of Bonn 9 Nov, 2023
- *Converse theorems for automorphic forms* in St John's College Mathematics Seminar at St John's College, University of Oxford (with Benjamin Bedert) 5 Mar, 2020

## TALKS IN LEARNING SEMINARS/STUDY GROUPS

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- *Hecke operators on  $p$ -adic modular forms* in the IMPRS Seminar on modular forms at Max Planck Institute for Mathematics 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 24 Oct, 2024
- Several talks in Exponential Sum Learning Seminar at Max Planck Institute for Mathematics 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 24 Jan, 2023

## CONFERENCES, WORKSHOPS, RESEARCH SCHOOLS ATTENDED

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- **Southern Regional Number Theory Conference 2025** at Louisiana State University 29–30 Mar, 2025
- **The Legacy of John Tate, and Beyond** at Harvard University 17–21 Mar, 2025
- **Arithmetic Geometry in Shenzhen** at Southern University of Science and Technology 16–20 Dec, 2024
- **New Advances in the Langlands Program: Geometry and Arithmetic** at University of Oxford 30 Sep–4 Oct, 2024
- **School on Hodge Theory and Shimura Varieties** at University of Duisburg-Essen 23–27 Sep, 2024
- **Conference on Arithmetic Geometry** at Max Planck Institute for Mathematics 22–26 Jul, 2024
- **Modular Forms,  $L$ -functions, and Eigenvarieties** at École Normale Supérieure 18–21 Jun, 2024
- **The 36th Automorphic Forms Workshop** at Oklahoma State University 20–24 May, 2024
- **Shanks Conferences on  $L$ -functions and Automorphic Forms** at Vanderbilt University 13–16 May, 2024
- **Periods in Physics, Number Theory and Algebraic Geometry** at Hausdorff Research Institute for Mathematics 22–26 Apr, 2024
- **International Conference on Modular Forms and  $q$ -Series** at University of Cologne 11–15 Mar, 2024
- **Modular Curves and their Arithmetic** at University of Warwick 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 18–22 Sep, 2023
- **Young Number Theorists in Bonn** at Max Planck Institute for Mathematics 11–15 Sep, 2023
- **Arithmetic of automorphic forms** at Laboratoire de Mathématiques d'Orsay 4–8 Sep, 2023
- **Early Number Theory Researchers Workshop 2023** at University of Bielefeld 23–25 Aug, 2023
- **Summer School on the Arithmetic of the Langlands Program** at University of Bonn 8–12 May, 2023
- **Arithmetic Statistics, Automorphic Forms, and Ergodic Methods** at Max Planck Institute for Mathematics 24–28 Apr, 2023
- **Special values of  $L$ -functions** at Paderborn University 13–17 Mar, 2023
- **Conference on Motives and Automorphic Forms** at Max Planck Institute for Mathematics 6–10 Mar, 2023
- **Number theory meets  $p$ -adic representations** at University of Münster 13–17 Feb, 2023
- **Luxembourg Number Theory Day 2022** at University of Luxembourg 16 Dec, 2022
- **Early Number Theory Researchers Workshop 2022** at TU Darmstadt 26–28 Oct, 2022

## OTHER EXPERIENCES

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- Senior Counselor at Ross Mathematics Program (Ross/Asia) in Huangshan, China 9 Jul–10 Aug, 2018
- Junior Counselor at Ross Mathematics Program (Ross/Asia) in Huangshan, China 10 Jul–11 Aug, 2017

## LANGUAGES

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Chinese (native), English (fluent)