

Curriculum Vitae

Qiao He

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2990 Broadway
New York, NY 10027
- Employment** 08/2023-Now, Ritt Assistant Professor, Columbia University.
- Education** 09/2017-08/2023, Ph.D., Mathematics,
University of Wisconsin-Madison. Advisor: Tonghai Yang.
- 09/2015-12/2016, M.A., Mathematics,
University of Wisconsin-Madison.
- 09/2011-06/2015, B.A., Investment, Statistics (Minor),
Shanghai University of Finance and Economics.
- Publications** PULLBACK OF ARITHMETIC THETA SERIES AND ITS MODULARITY FOR
UNITARY SHIMURA CURVES
(With Yousheng Shi and Tonghai Yang), preprint, 36 pp, 2024
- On the Kudla-Rapoport conjecture for unitary Shimura varieties with maximal parahoric level structure at unramified primes
(With Sungyoon Cho and Zhiyu Zhang), preprint, 93 pp, 2023
- Dihedral long root A-packets of p -adic G_2 via theta correspondence
(With Raúl Alonso, Mishty Ray and Martí Roset), submitted, pp 41, 2023.
- Just likely intersections on Hilbert modular surface
(With Asvin G. and Ananth N. Shankar), to appear in *Mathematische Annalen*, pp 13, 2022.
- A proof of the Kudla-Rapoport conjecture for Krämer models
(With Chao Li, Yousheng Shi and Tonghai Yang), *Inventiones Mathematicae*, 234, 721-817 (2023).
- Kudla-Rapoport conjecture at a ramified prime
(With Yousheng shi and Tonghai Yang), *Compositio Math.*, Volume 159, Issue 8, August 2023, pp. 1673 - 1740.
- Kudla program for unitary Shimura varieties
(With Yousheng shi and Tonghai Yang),
Sci Sin Math, 2021, 51: 1595–1626, doi: 10.1360/SSM-2021-0002.
- The Kudla-Rapoport conjecture at a ramified prime for $U(1, 1)$
(With Yousheng Shi and Tonghai Yang), *Trans. of the AMS*, 376 (2023), 2257-2291.

On Conjectures of Samart
(With Dongxi Ye), *manuscripta math*, 2022, 167: pages 545-588.

Awards

Salgo-Noren Foundation Program Associates Fellowship for visiting MSRI, 2023.
A fellowship that supports visiting to MSRI to attend a semester long program.

Excellence in Graduate Research Award, Department of Mathematics, UW-Madison, 2021
An annual award, ultimately recognizing students making significant and substantial contributions to research in pure or applied mathematics, as part of their work toward a PhD.

Research Talks

“Kudla–Rapoport conjecture at bad reduction primes”, Theta correspondence special session of JMM 2024.

“Kudla–Rapoport conjecture at bad reduction primes”, Number theory seminar, Johns Hopkins University, Nov. 2023.

“Kudla–Rapoport conjecture at bad reduction primes”, Renmin University, Oct. 2023.

“Kudla–Rapoport conjecture for Krämer models II”, Modularity of arithmetic special divisors for unitary Shimura varieties, special session of JMM 2023, Jan 3-7, 2023, planned.

“Local density of hermitian forms”, Modular Forms, Hypergeometric Functions, Character Sums and Galois Representations, special session of JMM 2023, Jan 3-7, 2023, planned.

“A proof of the Kudla–Rapoport conjecture for Krämer models”, Number theory seminar, CUHK, Dec. 2022, planned.

“A proof of the Kudla–Rapoport conjecture for Krämer models”, Number theory seminar, Tsinghua University, Nov. 2022.

“A proof of the Kudla–Rapoport conjecture for Krämer models”, Number theory seminar, University of Wisconsin-Madison, Nov. 2022.

“A proof of the Kudla–Rapoport conjecture for Krämer models”, Number theory seminar, Oklahoma State University, Oct. 2022.

“A proof of the Kudla–Rapoport conjecture for Krämer models”, GTA: Philly conference, May. 2022.

“A proof of the Kudla–Rapoport conjecture for Krämer models”, Number theory Seminar, University of Arizona, April. 2022.

“Kudla-Rapoport conjecture at a ramified prime”, Number theory Seminar, UW-Madison, Sep. 2021

Expository talks

“Does rigid analytic variety has Hodge symmetry?”, GNTS, UW-Madison, April. 2022

“Siegel-Weil formula”, GNTS, UW-Madison, Dec. 2021

“Supersingular locus of Unitary Shimura variety”, GNTS, UW-Madison, Feb. 2021

“Local Arithmetic Siegel-Weil Formula at Ramified Prime”, GNTS, UW-Madison, Sep. 2020

“Kontsevich’s Formula for Rational Plane Curves”, GAGS, UW-Madison, Feb. 2020

“Representation theory and arithmetic geometry”, GNTS, UW-Madison, Jan. 2020

“Modularity theorem for Elliptic curves”, GNTS, UW-Madison, Oct. 2019

“L-functions, Heegner points and Euler systems”, GNTS, UW-Madison, Feb. 2019

“Basics of trace formula”, GNTS, UW-Madison, Oct. 2018

“An elementary introduction to geometric Langlands”, GAGS, UW-Madison, Oct. 2018

“An introduction to automorphic representation II”, GNTS, UW-Madison, Apr. 2018

“An introduction to automorphic representation I”, GNTS, UW-Madison, Apr. 2018

**CONFERENCES
ATTENDED**

“Arithmetic intersection theory on Shimura varieties”, AIM workshop, Jan 8-12, 2024

“JMM 2024”, Jan 3-6, 2024

“Arizona Winter School 2023: Unlikely Intersections”, Study group leader for Tsiverman’s lecture, March 4-8, 2023.

“Algebraic Cycles, L-Values, and Euler Systems”, MSRI program, Salgo-Noren Foundation Program Associates, Jan 17 - May 26, 2023.

“JMM 2023”, Jan 4-7, 2023.

“MAGNTS 2022”, Oct 21-23, 2022, at UIC.

“Arithmetic and topology over global fields”, Oct 7-9, 2022, at University of Wisconsin-Madison

“APAW Graduate Graduate Instructional Workshop”, August 25-29, 2022.

“Graduate Student Conference in Algebra, Geometry, and Topology”, May 20-22, 2022.

“Arizona Winter Semester 2022: Automorphic Forms Beyond GL_2 ”, Project group of Wee Teck Gan, March 5-9, 2022.

“Theta Series: Representation Theory, Geometry, and Arithmetic”, July 5-9, 2021, at the Fields Institute (online).

“CMS summer meeting 2021”, June 8-10, hold online.

“Arizona Winter Semester 2021: Virtual School in Number Theory”, hold online, work as an assistant for Renee Bell.

“Madison Moduli Weekend Online“, September 26-27, 2020, at the University of Wisconsin-Madison (online).

“AMS Sectional Meeting”, September 14-15, 2019, at the University of Wisconsin-Madison.

“Hot Topics: Recent progress in Langlands Program”, April 8-12, 2019 at MSRI.

“Arizona Winter School 2019: Topology and Arithmetic”, March 2-6, 2019 at the University of Arizona in Tucson.

“Geometry and Arithmetic of Surfaces Workshop”, February 9-10, 2019, at the University of Wisconsin-Madison.

“Pop-up Conference in Number Theory“, UIC, Nov. 2-4, 2018 at UIC.

“Automorphic Forms and L-functions— A Conference in Celebration of Dorian Goldfeld’s 71st Birthday”, June 18-22, 2018 at Shandong University.

“Arithmetic of Algebraic Curves”, April 6-8, 2018 at the University of Wisconsin-Madison.

“Summer School on Representation Theory and the GGP Conjecture”, June 26-30, 2018, at BICMR

“Arizona Winter School 2018: Iwasawa Theory”, March 3-7, 2018 at the University of Arizona in Tucson.