

## EDUCATION

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<b>University of Wisconsin - Madison</b>	Madison, WI
Ph.D. in Mathematics, Advisors: Michael Rapoport (primary), Tonghai Yang (secondary)	May 2026 (expected)
<b>University of Wisconsin - Madison</b>	Madison, WI
M.A. in Mathematics	May 2021
<b>Zhejiang University</b>	Hangzhou, ZJ
B.S. in Mathematics	May 2020

## PUBLICATIONS

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1. Yu Luo, Michael Rapoport and Wei Zhang, “More regular formal moduli spaces and arithmetic transfer conjectures: the ramified quadratic case”, [submitted](#)
2. Yu Luo, “Kudla-Rapoport conjecture for unramified maximal parahoric level”, [submitted](#) 54pp
3. Yu Luo, Andreas Mihatsch and Zhiyu Zhang, “Unitary Shimura varieties at ramified primes and arithmetic transfer”, [submitted](#) 73pp
4. Qiao He, Yu Luo and Yousheng Shi, “The basic locus of ramified unitary Rapoport-Zink spaces at maximal vertex level”, [submitted](#) 54pp
5. Qiao He, Yu Luo and Yousheng Shi, “Regular models of ramified unitary Shimura varieties at maximal parahoric level”, [submitted](#)
6. Yu Luo, “On the moduli description of ramified unitary local models of signature  $(n - 1, 1)$ ”, **Math. Ann.** (2025) 78pp

## INVITED TALKS

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- Arithmetic Siegel-Weil formula Feb 2026  
*Johns Hopkins Junior Number Theory Days, Baltimore, Maryland, USA*
- A new proof of the arithmetic Siegel-Weil formula Jan 2026  
*Joint Mathematics Meetings 2026, Washington, D.C., USA*
- On unitary Rapoport–Zink space Nov 2025  
*Universität Münster, Münster, Germany*
- Proof of the arithmetic Siegel-Weil formula Nov 2025  
*University of Duisburg-Essen, Essen, Germany*
- A new proof of the arithmetic Siegel-Weil formula Nov 2025  
*Universität Münster, Münster, Germany*
- A new proof of the arithmetic Siegel-Weil formula Sept 2025  
*POSTECH, Pohang, South Korea*
- A new proof of the arithmetic Siegel-Weil formula June 2025  
*Symposium on Number Theory and Representation Theory, IX, Hangzhou, China*

- A new proof of the arithmetic Siegel-Weil formula  
*Zhejiang University* May 2025
- A new proof of the arithmetic Siegel-Weil formula  
*University of Wisconsin - Madison* Feb 2025
- Comparison of absolute and relative unitary Rapoport-Zink spaces  
*Massachusetts Institute of Technology (Learning seminar on Arithmetic Inner Product Formula)* Oct 2024
- On the Moduli Description of a Class of Unitary Shimura Varieties  
*University of Wisconsin - Madison* Dec 2023
- On the Moduli Description of a Class of Unitary Shimura Varieties  
*Zhejiang University* May 2023
- On the Moduli Description of a Class of Unitary Shimura Varieties  
*Michigan State University* May 2023

## SERVICES

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- Co-organizer of the Langlands-Kottwitz method reading Seminar  
*University of Wisconsin - Madison* 2025 Fall - 2026 Spring
- Co-organizer of the Relative trace formula reading Seminar  
*University of Wisconsin - Madison* 2024 Fall - 2025 Spring
- Organizer of the Gross-Zagier formula reading Seminar  
*University of Wisconsin - Madison* 2024 Spring
- Co-organizer of GAGS - Graduate Algebraic Geometry Seminar  
*University of Wisconsin - Madison* 2022 Spring–2025 Spring
- Mentor at Undergraduate Directed Reading Program  
*Mentor of Baoyi WANG (Currently in Columbia University) University of Wisconsin - Madison* 2022 Spring
- Mentor of Master Program in Math Department  
*Mentor of Ruoxi LI (Currently in UIUC Math PhD), Weiman YUAN (Currently in Vanderbilt University Bio, Engineering), Aditya Phukon.* 2021 Fall
- Organizer of Algebraic Geometry Learning Seminar  
*University of Wisconsin - Madison* 2020 Spring
- Organizer of Commutative Algebra Learning Seminar  
*University of Wisconsin - Madison* 2019 Fall
- Organizer of Undergraduate Algebraic Geometry Seminar  
*Zhejiang University* 2019 Spring

## TEACHING

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- Math 340 - Linear algebra - TA  
*University of Wisconsin - Madison* 2026 Spring
- Math 221 - Calculus 1 - TA  
*University of Wisconsin - Madison* 2025 Fall
- Math 475 - Introduction to Combinatorics - TA  
*University of Wisconsin - Madison* 2025 Summer
- Math 435 - Introduction to Cryptography - TA  
*University of Wisconsin - Madison* 2025 Summer
- Math 340 - Linear Algebra - TA 2025 Spring

- University of Wisconsin - Madison*

• Math 112 - Algebra - Lecturer 2024 Fall  
*University of Wisconsin - Madison*
- Math 320 - Linear Algebra and ODE - TA 2024 Spring  
*University of Wisconsin - Madison*
- Math 340 - Linear Algebra - TA 2023 Fall  
*University of Wisconsin - Madison*
- Math 340 - Linear Algebra - TA 2023 Spring  
*University of Wisconsin - Madison*
- Math 234 - Calculus 3 - TA 2022 Fall  
*University of Wisconsin - Madison*
- Math 240 - Discrete Math - TA 2024 Summer  
*University of Wisconsin - Madison*
- Math 222 - Calculus 2 - TA 2022 Spring  
*University of Wisconsin - Madison*
- Math 221 - Calculus 1 - TA 2021 Fall  
*University of Wisconsin - Madison*

## HONORS AND AWARDS

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- Excellence in Mathematical Research Award - University of Wisconsin, Madison 2025 Fall
- A scholarship equivalent to the Government Scholarship 2018–2019
- Government Scholarship - Zhejiang Government 2017–2018
- Government Scholarship - Zhejiang Government 2016–2017