

# Joey Yu LUO

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518 Van Vleck Hall  
Department of Mathematics  
University of Wisconsin - Madison

## EDUCATION

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<b>University of Wisconsin - Madison</b> Ph.D. in Mathematics, Advisor: Michael Rapoport, Tonghai Yang	Madison, WI In progress
<b>University of Wisconsin - Madison</b> M.A. in Mathematics	Madison, WI May 2021
<b>Zhejiang University</b> B.S. in Mathematics	Hangzhou, ZJ May 2020

## PUBLICATIONS

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1. Yu LUO, “On the moduli description of ramified unitary Local models of signature  $(n - 1, 1)$ ”, [preprint](#).
2. Qiao He, Yu LUO and Yousheng Shi, “On the basic locus of relative ramified unitary Rapoport-Zink space of signature  $(n - 1, 1)$  at maximal parahoric”, *In preparation*
3. Qiao He, Yu LUO and Yousheng Shi, “Regular integral model of unitary Shimura varieties of signature  $(n - 1, 1)$  at ramified place of maximal parahoric”, *In preparation*
4. Andreas Mihatsch, Yu LUO and Zhiyu Zhang, “On the comparison between absolute and relative unitary Rapoport-Zink spaces”, *In preparation*

## SEMINAR TALKS

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- 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, invited by Fei Yu* May 2023
- On the Moduli Description of a Class of Unitary Shimura Varieties  
*Michigan State University, invited by George Pappas* May 2023

## SERVICES

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- Organizer of Gross-Zagier formula reading Seminar  
*University of Wisconsin - Madison* 2024 Spring
- Coorganizer of GAGS - Graduate Algebraic Geometry Seminar  
*University of Wisconsin - Madison* 2022 Spring–Current
- 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 2020 Spring  
*University of Wisconsin - Madison*
- Organizer of Commutative Algebra Learning Seminar 2019 Fall  
*University of Wisconsin - Madison*
- Organizer of Undergraduate Algebraic Geometry Seminar 2019 Spring  
*Zhejiang University*

## CONFERENCE ATTENDED

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- Arithmetic intersection theory on Shimura varieties January 2024  
*American Institute of Mathematics, Pasadena, California, USA*
- Joint Mathematics Meetings 2024 January 2024  
*San Francisco, California, USA*
- Arithmetic Algebraic Geometry: A conference on the occasion of Michael Rapoport's 75th birthday October 2023  
*University of Münster, Münster, Germany*
- Workshop on Geometric Analysis and Complex Geometry August 2023  
*Tianyuan Mathematical Center in Central China, Wuhan, China*
- Mini-Workshop on Topology and Arithmetic August 2023  
*Southern University of Science and Technology, Shenzhen, China*
- Satellite Conference in Number Theory of ICBS July 2023  
*Morningside Center of Mathematics, Beijing, China*
- Workshop on Geometric Representation Theory and Applications July 2023  
*Tsinghua University, Beijing, China*
- MSRI workshop: Shimura Varieties and L-functions: to Shou-Wu Zhang's 60th birthday March 2023  
*Mathematical Sciences Research Institute, California, USA*
- Arizona Winter School 2023: Unlikely Intersections March 2023  
*University of Arizona, Arizona, USA*
- Joint Mathematics Meetings 2023 January 2023  
*Boston, Massachusetts, USA*
- Johns Hopkins University - University of Maryland Algebra and Number Theory Day November 2022  
*University of Maryland, Maryland, USA*
- MAGNTS: Midwest Arithmetic Geometry and Number Theory Series October 2022  
*University of Illinois Chicago, Illinois, USA*
- Arithmetic and Topology over Global Fields October 2022  
*University of Wisconsin - Madison, Wisconsin, USA*
- Boston College 2021 AGNES: Algebraic Geometry Northeastern Series Showcase October 2021  
*Boston College (Online), Massachusetts, USA*
- CA+ 2021 October 2021  
*University of Minnesota Twin Cities, Minnesota, USA*
- Theta Series: Representation Theory, Geometry and Arithmetic July 2021  
*The Fields Institute (Online), Toronto, Canada*

## HONORS AND AWARDS

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- A scholarship equivalent to the Government Scholarship 2018–2019
- Government Scholarship - Zhejiang Government 2017–2018
- Government Scholarship - Zhejiang Government 2016–2017

## READING SEMINAR TALKS

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- Geometric proof of Hurwitz class number relation  
*Graduate Number Theory Seminar, University of Wisconsin Madison* September 2023
- Hilbert-Mumford criterion  
*Geometry Invariant Theory Reading Seminar, University of Wisconsin Madison* February 2023
- Bad reduction of modular curve and Langlands-Kottwitz method  
*Graduate Number Theory Seminar, University of Wisconsin Madison* December 2022
- Yoneda embedding and moduli problem  
*Graduate Algebraic Geometry Seminar, University of Wisconsin Madison* December 2022
- Serre's local open image theorem  
*Graduate Arithmetic Reading Seminar, University of Wisconsin Madison* October 2022
- Abelian representation and representation of  $S_n$   
*Graduate Arithmetic Reading Seminar, University of Wisconsin Madison* September 2022
- Galois Representation, L-function and Faltings finiteness theorem  
*Graduate Arithmetic Reading Seminar, University of Wisconsin Madison* September 2022
- Riemann-Hilbert Correspondence  
*Graduate Algebraic Geometry Seminar, University of Wisconsin Madison* February 2022
- Stacks for Kindergarteners  
*Graduate Algebraic Geometry Seminar, University of Wisconsin Madison* December 2021
- Construction of Quot scheme and flat family  
*Graduate Deformation Theory Seminar, University of Wisconsin Madison.* October 2021
- Intersection Theory and Grothendieck Riemann Roch  
*Graduate Algebraic Curve Reading Seminar, University of Wisconsin Madison.* April 2021
- The Zariski Tangent space of  $Wrd(C)$  and  $Grd(C)$   
*Graduate Algebraic Curve Reading Seminar, University of Wisconsin Madison.* March 2021

## LANGUAGES

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- English
- Mandarin