CONTACT INFORMATION

Department of Mathematics
Brown University
151 Thayer Street
Providence, RI, USA

Email: zhining_wei@brown.edu
weizhining.863@gmail.com
Webpage: https://weizhining.github.io/
Office: Kassar House 014

EMPLOYMENT

Brown University, Providence, RI, USA
Tamarkin Assistant Professor — Jul 2023 - present

EDUCATION

The Ohio State University, Columbus, OH, USA
Ph.D., Mathematics. Advisor: Wenzhi Luo. — Aug 2017 - May 2023

Nankai University, Tianjin, China
B.S., Mathematics. — Sept 2013 - Jun 2017

RESEARCH INTERESTS

Number Theory and Representation Theory. In particular, I am interested in the analytic theory of automorphic forms and representations.

PUBLICATIONS & PREPRINTS

1. *Second moment of central values of half-integral weight modular forms and subconvexity* (with Steven Creech, Henry Twiss and Peter Zenz). Submitted, 2025.
2. *Low-lying zeros of Hilbert modular L-functions weighted by powers of central L-values* (with Liyang Yang and Shifan Zhao). Submitted, 2025.
3. *Effective open image theorem and a Linnik type problem for elliptic curves.* (with Tian Wang). Submitted, 2025.
4. *Relative Trace Formula and Uniform Non-vanishing of Central L-values of Hilbert Modular Forms.* (with Liyang Yang and Shifan Zhao). Submitted, 2024.
5. *Some remarks on strong multiplicity one for paramodular forms.* (with Xiyuan Wang, Pan Yan and Shaoyun Yi). Submitted, 2023.
6. *On Möbius functions from automorphic forms and a generalized Sarnak's conjecture* (with Shifan Zhao). Q. J. Math, 2024.
7. *On distinguishing Siegel cusp forms of degree two* (with Shaoyun Yi). Submitted, 2022
8. *Generalizations of the Erdős-Kac Theorem and the Prime Number Theorem* (with Biao Wang, Pan Yan and Shaoyun Yi). Communications in Mathematics and Statistics, 2025
9. *Linear Relations of Siegel Poincaré Series and Non-vanishing of the Central Value of Spinor L-functions.* Journal de Théorie des Nombres de Bordeaux, 2022.
10. *Thesis: Sums of k-th Powers and Fourier Coefficients of Cusp forms.* Ramanujan Journal, 2023.

Talks

1. *Low-lying Zeros of Hilbert Modular L-functions Weighted by Powers of Central L-values* Oct 5, 2025
   Maine-Québec Number Theory Conference 2025

2. *Effective open image theorem and a Linnik type problem for elliptic curves* July 4, 2025
   ShanghaiTech University

3. *The random matrix theory, the weighted moments and applications* Jun 15, 2025
   Zhejiang University

4. *The random matrix theory, the weighted moments and applications* Jun 6, 2025
   Shandong University

5. *On the Nonvanishinig of Central Values* Oct 24, 2024
   9th Qilu Youth Forum at Shandong University (onlione)

6. *Effective open image theorem for pairs of elliptic curves* May 23, 2024
   36th Automorphic Forms Workshop at Oklahoma State University

7. *Lecture on an Introduction to Siegel Modular Forms* May 20, 2024
   36th Automorphic Forms Workshop at Oklahoma State University (expository lecture)

8. *Möbius disjointness for automorphic L-functions* May 15, 2024
   International conference on L-functions and automorphic forms at Vanderbilt University (lightning talk)

9. *The refined strong multiplicity one for paramodular groups.* Apr 13, 2024
   TORA XIII, (speed talk)

10. *Effective Open Image Theorem for pairs of elliptic curves.* Apr 9, 2024
    Number Theory Seminar at Texas A&M University

11. *On Möbius functions from automorphic forms and a generalized Sarnak's conjecture.* Oct 2, 2023
    Seminar in Theory and Applications of Discrete Math, Linear Algebra and Number Theory, Washington State University (online)

12. *On Möbius functions from automorphic forms and a generalized Sarnak's conjecture.* Oct 2, 2023
    Algebra Seminar at Brown University

13. *The Refined Strong Multiplicity One and its Applications.* Jun 20, 2023
    Chinese Academy of Sciences

14. *The Refined Strong Multiplicity One and its Applications.* Jun 16, 2023
    Shandong University

15. *The Refined Strong Multiplicity One and its Applications.* Jun 9, 2023
    Xiamen University

16. *The Zero Density Theorem for Rankin-Selberg L-functions and its applications.* Jan 6, 2023
    Joint Mathematics Meetings, Special Session on Analytic Number Theory

17. *Linear Relations of Siegel Poincaré Series and Non-vanishing of the Central Value of Spinor L-functions.* Dec 19, 2022
    Copenhagen Number Theory Seminar (online)

18. *On distinguishing Siegel cusp forms of degree two* Sep 24, 2022
Palmetto Number Theory Series 34

19. *Linear Relations of Siegel Poincaré Series and Non-vanishing of the Central Values of Spinor L-functions* Mar 17, 2022
34th Automorphic Forms Workshop at BYU (online)

20. *Linear Relations of Siegel Poincaré Series and Non-vanishing of the Central Values of Spinor L-functions* Nov 23, 2021
Morningside Seminar on Number Theory at Morningside Center of Mathematics (online)

21. *Böcherer's conjecture and the Non-vanishing of Central Values* Nov 22, 2021
HAAR (Harmonic Analysis and Automorphic Representations) Zoominar (online)

22. *Linear Relations of Siegel Poincaré Series and Non-vanishing of the Central Values of Spinor L-functions* Oct 3, 2021
Maine-Québec Number Theory Conference (online)

23. *Linear Relations of Siegel Poincaré Series and Non-vanishing of the Central Values of Spinor L-functions* Sept 26, 2021
PAlmetto Joint Arithmetic, Modularity, and Analysis Series III (online)

Teaching Experience

Lecturer, Department of Mathematics, Brown University

Math 180 Multivariable Calculus	Fall 2025
Math 1560 Number Theory [Course Webpage]	Spring 2025
Math 420 Introduction to Number Theory [Course Webpage]	Fall 2024
Math 520 Linear Algebra	Fall 2024
Math 90 Single Variable Calculus, Part I	Spring 2024
Math 100 Single Variable Calculus, Part II	Spring 2024
Math 200 Multivariable Calculus (Physics/Engineering)	Fall 2023

Recitation Instructor, Department of Mathematics, The Ohio State University University

Math 2153 Calculus III	Fall 2021
Math 1172 Engineering Mathematics A (online)	Spring 2021
Math 1151 Calculus I (online)	Fall 2020
Math 2153 Calculus III	Fall 2019
Math 1172 Engineering Mathematics A	Spring 2019
Math 1151 Calculus I	Fall 2018