

# Wanlin Li

---

Department of Mathematics  
Massachusetts Institute of Technology  
Simons Building (Building 2)  
Room 336  
77 Massachusetts Avenue  
Cambridge, MA 02139-4307

[wanlinli@mit.edu](mailto:wanlinli@mit.edu)  
<http://www-math.mit.edu/~wanlinli/>

## Education

---

PhD Mathematics, [University of Wisconsin–Madison](#), Madison, WI, August 2019,  
under Advisor: [Jordan Ellenberg](#).

BA Mathematics, Nanjing University, Nanjing, Jiangsu, China, June 2013.

## Publications

---

- “Vanishing of Hyperelliptic L-functions at the Central Point”, *J. Number Theory* 191 (2018), 85-103, [arXiv](#).
- “Effective Bounds on the Dimensions of Jacobians Covering Abelian Varieties”, with J. Bruce, *Proc. Amer. Math. Soc.* 148 (2020), no. 2, 535-551, [arXiv](#).
- “Newton polygons of cyclic covers of the projective line branched at three points”, with E. Mantovan, R. Pries and Y. Tang, *Research Directions in Number Theory: Women in Numbers IV*, [arXiv](#).
- “Newton Polygons Arising for Special Families of Cyclic Covers of the Projective Line”, with E. Mantovan, R. Pries and Y. Tang, *Res. Number Theory* 5 (2019), no. 1, [arXiv](#).
- “Ranks, 2-Selmer groups, and Tamagawa numbers of elliptic curves with  $\mathbb{Z}/2\mathbb{Z} \times \mathbb{Z}/8\mathbb{Z}$ -torsion”, with S. Chan and J. Hanselman, *Proceedings of the Thirteenth Algorithmic Number Theory Symposium*, 173189, *Open Book Ser.*, 2, *Math. Sci. Publ.*, Berkeley, CA [arXiv](#).
- “Newton polygon stratification of the Torelli locus in PEL-type Shimura varieties”, with E. Mantovan, R. Pries and Y. Tang, submitted, [arXiv](#).
- “Nonvanishing of hyperelliptic zeta functions over finite fields”, with J. Ellenberg and M. Shusterman, to appear in *Algebra and Number Theory*, [arXiv](#).
- “Group-theoretic Johnson classes and a non-hyperelliptic curve with torsion Ceresa class”, with D. Bisogno, D. Litt, and P. Srinivasan, submitted, [arXiv](#).

- “The Ceresa class: tropical, topological, and algebraic”, with D. Corey and J. Ellenberg, submitted, [arXiv](#).

## **Organization**

---

I was a primary organizer for the following conferences.

- Conference: [Arithmetic of Algebraic Curves](#), Apr 2018
- Conference: [Geometry and Arithmetic of Surfaces](#), Feb 2019

## **Grant and Award**

---

- Elizabeth Hirschfelder Prize, 2018-2019
- Postdoctoral Ambassadorship from the Women and Mathematics Program at the Institute for Advanced Study, 2017-2018

## **Upcoming and Recent Presentations**

---

- Number theory seminar, University of Arizona, Sep 2020
- Madison Moduli Weekend, Sep 2020
- Connecticut Summer School in Number Theory, CTNT online, Jun 2020
- Arithmetic Geometry is Online in Zoom, Everyone, Mar 2020, [video](#)
- AMS Special Session on Youth and Enthusiasm in Arithmetic Geometry and Number Theory, Charlottesville, Mar 2020 (canceled)
- AMS Special Session on Curves, Jacobians, and Abelian Varieties, Charlottesville, Mar 2020 (canceled)
- AMS Special Session on Arithmetic Galois Actions, Denver, Jan 2020
- AMS Special Session on Rational Points on Algebraic Varieties: Theory and Computation, Denver, Jan 2020
- Johns Hopkins Junior Number Theory Days, Dec 2019
- joint NYU-CUNY-Columbia Number Theory Seminar, NYU, Dec 2019
- Number theory seminar, Boston University, Nov 2019
- Number theory seminar, University of Georgia, Oct 2019
- Number theory seminar, Tufts University, Oct 2019
- Number theory seminar, University of Connecticut, Oct 2019
- Number theory seminar, MIT, Sept 2019

- AMS Special Session on Arithmetic of Shimura Varieties, Madison, Sept 2019
- Arithmetic of Low-Dimensional Abelian Varieties, ICERM, Jun 2019, [video](#)
- 49th John H. Barrett Memorial Lectures, University of Tennessee, May 2019
- Automorphic Forms and Arithmetic seminar, Columbia University, Apr 2019
- AMS Special Session on Arithmetic Geometry and its connections, Hawaii, Mar 2019
- Hawaii Number Theory conference, Hawaii, Mar 2019
- AMS Special Session on Arithmetic Statistics, Baltimore, Maryland, Jan 2019
- Quebec-Vermont Number Theory Seminar (QVNTS), Montreal, Quebec, Dec 2018
- Algebraic Geometry and Number Theory seminar, Rice University, Nov 2018
- Front Range Algebraic Geometry and Number Theory Seminar, Colorado State University, Jul 2018
- Canadian Number Theory Association Conference (CNTA XIV), Quebec, Aug 2018
- Connecticut Summer School in Number Theory (CTNT), Jun, 2018
- Maine-Quebec Number Theory Conference, Oct 2017
- Present "Elliptic curves with rational  $\mathbb{Z}/2\mathbb{Z} \times \mathbb{Z}/8\mathbb{Z}$ -torsion" in ICTP, Aug 2017
- Present "Newton polygons of cyclic covers of the projective line" at Women in Numbers 4, BIRS, Aug 2017

### Upcoming and Recent Conferences Attended

---

- AMS Spring Southeastern Sectional Meeting, Charlottesville, Mar 2020
- The Joint Mathematics Meetings, Jan 2020
- AMS Fall Central Sectional Meeting, Madison, Sep 2019
- Arithmetic of Low-Dimensional Abelian Varieties, Icerm, Jun 2019
- 49th John H. Barrett Memorial Lectures, University of Tennessee, May 2019
- AMS Spring Central and Western Joint Sectional Meeting, Hawaii, Mar 2019
- Hawaii Number Theory conference, Mar 2019
- The Joint Mathematics Meetings, Jan 2019
- Conference on open questions in cryptography and number theory, Sep 2018
- Arithmetic Geometry, Number Theory, and Computation at MIT, Aug 2018
- 15th Meeting of the Canadian Number Theory Association (CNTA XV), July 2018

- Connecticut Summer School in Number Theory, University of Connecticut, June 2018
- Maine-Quebec Number Theory Conference 2017, October 2017
- PhD Summer school and workshop "Curves and L-functions", ICTP, August 2017
- WIN4: Women in Numbers 4, BIRS, August 2017
- 14th Meeting of the Canadian Number Theory Association (CNTA XIV), June 2016
- Summer School in Explicit Methods for Abelian Varieties, PIMS, June 2016
- Program for Women and Mathematics: Aspects of Algebraic Geometry, IAS, May 2015

## **Teaching**

---

### **Teaching assistant at UW-Madison**

Calculus–Functions of Several Variables, Spring 2019.

Algebra and Trigonometry, Fall 2018.

Calculus and Analytic Geometry II, Spring 2018.

Calculus and Analytic Geometry I, Fall 2017.

Calculus and Analytic Geometry II, Spring 2017.

Calculus and Analytic Geometry II, Fall 2016.

Introduction to Discrete Mathematics, Spring 2016.

Techniques in Ordinary Differential Equations, Fall 2015.

Calculus–Functions of Several Variables, Spring 2015.

Calculus and Analytic Geometry II, Fall 2014.

## **Service**

---

Orientation for incoming mathematics graduate students, August 2017.

Graduate Program Committee, 2015-2018

Math Girls Night Out, Fall 2015

Directed Reading Program, Fall 2016, Spring 2017