

# Sachi Hashimoto

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## Employment

Max Planck Institute for Mathematics in the Sciences, Postdoc ..... June 2022 - June 2023

## Education

**Boston University** ..... May 2022  
PhD in Mathematics  
Advisor: Jennifer Balakrishnan

**University of Chicago** ..... June 2014  
BA in Mathematics with General and Departmental Honors

## Preprints and publications

8. “Self-dual matroids from canonical curves” (with Alheydis Geiger, Bernd Sturmfels, and Raluca Vlad), [arXiv:2212.05910](https://arxiv.org/abs/2212.05910).
7. “Geometric quadratic Chabauty and  $p$ -adic heights” (with Juanita Duque-Rosero and Pim Spelier), [arXiv:2207.10389](https://arxiv.org/abs/2207.10389).
6. “Quadratic Chabauty and  $p$ -adic Gross–Zagier”, to appear, *Transactions of the American Mathematical Society*.
5. “A geometric linear Chabauty comparison theorem” (with Pim Spelier), *Acta Arithmetica*, 202 (2022), no. 1, 67–88. [11G30](https://arxiv.org/abs/11G30) ([11D45](https://arxiv.org/abs/11D45)).
4. “A transcendental Brauer–Manin obstruction to weak approximation on a Calabi–Yau threefold” (with Katrina Honigs, Alicia Lamarche, Isabel Vogt, and an appendix by Nicolas Addington), *Research in Number Theory* 8 (2022), no. 1, Paper No. 12.
3. “38406501359372282063949 and all that: Monodromy of Fano Problems” (with Borys Kadets), *International Mathematics Research Notices IMRN 2022*, no. 5, 3349–3370.
2. “Chabauty–Coleman computations on rank 1 Picard curves” (with Travis Morrison), *Arithmetic Geometry, Number Theory, and Computation*, Simons Symposia, Springer, 2021, 485–506.
1. “Computing rational points on rank 0 genus 3 hyperelliptic curves” (with María de Frutos-Fernández), *Arithmetic Geometry, Number Theory, and Computation*, Simons Symposia, Springer, 2021, 449–460.

## Academic honors

NSF Graduate Research Fellowship, 2018 - 2022.

Clare Boothe Luce Fellowship (Henry Luce Foundation), 2017 - 2019.

## Invited talks

May 2023: International Seminar on Automorphic Forms, online (planned).

March 2023: Séminaire de théorie des nombres, Institut Fourier.

February 2023: Oberseminar Algebra & Number Theory, Universität Ulm.

January 2023: Oberseminar Zahlentheorie und Arithmetische Geometrie, Leibniz Universität Hannover.

December 2022: Number theory seminar, University of Wisconsin - Madison.

November 2022: Algebra, Geometry, and Number Theory seminar, University of Leiden.

November 2022: Number theory seminar, University of Barcelona.

October 2022: Nonlinear algebra seminar, Max Planck Institute for Mathematics in the Sciences.

April 2022: Combinatorics & Nonlinear Algebra Day, Brown.

February 2022: AGNT Seminar, Rice.

February 2022: Algebra seminar, University of Groningen.

April 2021: AMS Invited Talk, graduate student chapter, University of Connecticut, Storrs.

February 2021: Number theory seminar, University of Georgia.

February 2021: Algebra seminar, Brown.

November 2020: Algebraic geometry & number theory seminar, IST Austria.

September 2020: Algebra seminar, Virginia Tech.

September 2020: Monodromy and Galois groups in enumerative geometry and applications, ICERM.

August 2020: POINT, New Developments in Number Theory, online.

May 2020: Experimental Talks in Algebraic Geometry, online.

September 2019: Algebra/Number theory seminar, Wesleyan.

April 2019: AMS Graduate Student Conference in Algebraic Geometry and Number Theory, Brown.

February 2019: BU Data Science Day, poster and lightning talk, Boston University.

## Expository and outreach talks

April 2019: Women in Mathematics and Statistics Panelist, Harvard.

May 2019: PROMYS Math Circles Field Day, Boston University.

February 2018: PROMYS Math Circles Field Day, Boston University.

## Teaching and outreach

*PROMYS Math Circles* Field Day mentor ..... February 2022, November 2019

*BU Directed Reading Program*, co-director and mentor ..... August 2018 - May 2022

*Directed Reading Program* Seed Funding Grant, DRP Network ..... Fall 2018

*Graduate Women in Science and Engineering*, mentor ..... 2017 - 2018

*Proof School* Spring Math Festival, director ..... April 2017

*Proof School* Love Math! A festival for girls, co-director ..... Fall 2016, 2017, 2018, 2019

*Proof School* Mathematics Teacher (secondary school) ..... 2015 - 2017

*Canada/USA Mathcamp*, instructor ..... Summer 2015, 2016

## Other academic activities

April 2023: *Number theory meets tropical geometry: Semistable Models of Curves*, Organizer, Max Planck Institute for Mathematics in the Sciences.

Summer 2022: *ICM preparatory seminar*, Co-organizer, Max Planck Institute for Mathematics in the Sciences.

Fall 2019: *Boston University Number Theory Expository Seminar*, Topic: Gross-Zagier, Organizer, Boston University.

June 2019: *Mathematics Research Community: Explicit Methods in Arithmetic Geometry in Characteristic  $p$* , Assistant, Whispering Pines, Rhode Island.

May 2018: *Connecticut Number Theory School*, Graduate Assistant, University of Connecticut, Storrs.

February 2018: *Graduate Workshop in Algebraic Geometry for Women and Mathematicians of Minority Genders*, Teaching Assistant for the course on explicit Coleman integration, MIT.