

Sachi Hashimoto

Brown University
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Employment

Brown University, Tamarkin Assistant Professor July 2023 - present
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), to appear in *Experimental Mathematics*.
7. “Geometric quadratic Chabauty and p -adic heights” (with Juanita Duque-Rosero and Pim Spelier), to appear in the Edixhoven Memorial Volume of *Expositiones Mathematicae*.
6. “Quadratic Chabauty and p -adic Gross–Zagier” *Transactions of the American Mathematical Society*, **376** (2023), no. 5, 3725–3760.
5. “A geometric linear Chabauty comparison theorem” (with Pim Spelier), *Acta Arithmetica*, **202** (2022), no. 1, 67–88.
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.

Fellowships and Grants

AMS-Simons Travel Grant, 2023 - 2025.
Directed Reading Program Seed Funding Grant (DRP Network), Fall 2018.
NSF Graduate Research Fellowship, 2018 - 2022.
Clare Boothe Luce Fellowship (Henry Luce Foundation), 2017 - 2019.

Invited talks

Conference and workshop talks

January 2023: Special session on arithmetic geometry with a view toward computation, Joint Mathematics Meetings (planned).

April 2022: Combinatorics & Nonlinear Algebra Day, Brown University.

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

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

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

Seminar talks

May 2023: International Seminar on Automorphic Forms, online.

May 2023: Number theory seminar, Universität Heidelberg.

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.

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 University.

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

September 2020: Algebra seminar, Virginia Tech.

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

May 2020: Experimental Talks in Algebraic Geometry, online.

September 2019: Algebra/Number theory seminar, Wesleyan.

Teaching and outreach

Events and short programs

Canada/USA Mathcamp, visitor July 2019

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

Harvard GIIM Women in Mathematics and Statistics, panelist April 2018

PROMYS Math Circles Field Day, speaker February 2018, May 2019

Proof School Spring Math Festival, director April 2017

Proof School Love Math! A festival for girls, co-directorFall 2016, 2017, 2018, 2019
Canada/USA Mathcamp, instructor Summer 2015, 2016
Northwestern University Splash, teacher 2012, 2013
MIT Splash, teacher November 2009, 2010, 2011, 2012, 2013

Teaching and mentoring (long-term)

Brown University, Linear algebra (Math 0520 Section 05), Instructor Fall 2023
Brown University, Linear algebra (Math 0520 Section 04), Instructor Fall 2023
BU Directed Reading Program, co-director and mentor 2018 - 2022
BU Graduate Women in Science and Engineering, mentor 2017 - 2018
Proof School Mathematics Teacher (secondary school) 2015 - 2017
University of Chicago, Young Scholars Program, problem session leader Winter and Spring 2012
University of Chicago Splash Chicago, teacher and board member 2011 - 2014

Professional Service

Fall 2023 - Spring 2024: *Number Theory / Algebra Seminar*, Co-organizer, Brown University.
 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.