Ana Caraiani

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RESEARCH INTERESTS

The Langlands program, algebraic number theory, arithmetic geometry, representation theory.

EDUCATION

Ph.D. in Mathematics, Harvard University   9/2007–6/2012

- Thesis: Local-global compatibility and the action of monodromy on nearby cycles
- Advisor: Richard Taylor

B.A. in Mathematics, Summa cum Laudae, Princeton University   9/2003–6/2007

EMPLOYMENT

Royal Society University Research Fellow and Professor,   9/2021–
Imperial College London

Hausdorff Chair, University of Bonn   9/2022–8/2023

Royal Society University Research Fellow and Reader,   9/2019–8/2021
Imperial College London

Royal Society University Research Fellow and Senior Lecturer,   8/2017–8/2019
Imperial College London

Bonn Junior Fellow, Hausdorff Center for Mathematics   8/2016–8/2017

Veblen Research Instructor and NSF Postdoctoral Fellow,   9/2013–7/2016
Princeton University and Institute for Advanced Study

L.E. Dickson Instructor and NSF Postdoctoral Fellow,   9/2012–8/2013
University of Chicago

VISITING POSITIONS

Max Planck Fellow, Max Planck Institute for Mathematics, Bonn   10/2022–8/2023

Bonn Research Fellow, Hausdorff Center for Mathematics   10/2018–8/2022

PUBLICATIONS AND PREPRINTS

1. "Recent progress on Langlands reciprocity for GL_n: Shimura varieties and beyond", joint with S.W. Shin, 56 pages, to appear in *Proceedings of the 2022 IHES summer school on the Langlands program*.

2. "On the modularity of elliptic curves over imaginary quadratic fields", joint with J. Newton, arXiv:2301.10509, 106 pages, submitted.

3. "The cohomology of Shimura varieties with torsion coefficients", *Proc. Int. Cong. Math.* 2022, vol. 3, 1744–1766, EMS Press, Berlin, 2023.

4. "The geometric Breuil-Mézard conjecture for two-dimensional potentially Barsotti-Tate Galois representations", joint with M. Emerton, T. Gee and D. Savitt, arXiv:2207.05235, 24 pages, to appear in *Algebra and Number Theory*.

5. "Components of moduli stacks of two-dimensional Galois representations", joint with M. Emerton, T. Gee and D. Savitt, *Forum of Math. Sigma* 12 (2024), no. e31.

6. "Local geometry of moduli stacks of two-dimensional Galois representations", joint with M. Emerton, T. Gee and D. Savitt, arXiv:2207.14337, 55 pages, to appear in *Proceedings of the International Colloquium on 'Arithmetic Geometry', TIFR Mumbai, Jan. 6-10, 2020*.

7. "On the étale cohomology of Hilbert modular varieties with torsion coefficients", joint with M. Tamiozzo, *Compositio Math.* 159 (2023), no. 11, 2279–2325.

8. "New frontiers in Langlands reciprocity", *EMS Magazine* 119 (2021).

9. "Vanishing theorems for Shimura varieties at unipotent level", joint with D. Gulotta and C. Johansson, *Journal of the EMS* 25 (2023), no. 3, 869–911.

10. "On the generic part of the cohomology of non-compact unitary Shimura varieties", joint with P. Scholze, *Annals of Math. (2)*, 199 (2024), no 2, 483–590.

11. "Potential automorphy over CM fields", joint with P. Allen, F. Calegari, T. Gee, D. Helm, B. Le Hung, J. Newton, P. Scholze, R. Taylor, and J. Thorne, *Annals of Math. (2)*, 197 (2023), no. 3, 897–1113.

12. "Shimura varieties at level $\Gamma_1(p^\infty)$ and Galois representations", joint with D. Gulotta, C.Y. Hsu, C. Johansson, L. Mocz, E. Reinecke and S.C. Shih, *Compositio Math.* 156 (2020), no. 6, 1152–1230.

13. "Perfectoid Shimura varieties", in *Perfectoid spaces: Lectures from the 2017 Arizona Winter School*, edited by Bryden Cais, Mathematical Surveys and Monographs 242, American Mathematical Society, 2019, 245–297.

14. "Patching and the p-adic Langlands program for $GL_2(Q_p)$", joint with M. Emerton, T. Gee, D. Geraghty, V. Paskunas and S.W. Shin, *Compositio Math.* 154 (2018), no. 3, 503–548.

15. "Kisin modules with descent data and parahoric local models", joint with B. Levin, *Ann. Sci. École Norm. Sup.*, 4e série, 51 (2018), 181–213.

16. "On the generic part of the cohomology of compact unitary Shimura varieties", joint with P. Scholze, *Annals of Math. (2)* 186 (2017), no. 3, 647–766.

17. "p-adic q-expansion principles on unitary Shimura varieties", joint with E. Eischen, J, Fintzen, E. Mantovan and I. Varma, *Directions in Number Theory: Proceedings of the WIN3 Workshop* (2016), Springer, 197-244.

18. "On the image of complex conjugation in certain Galois representations", joint with B.V. Le Hung, *Compositio Math.* 152 (2016), No. 7, 1476-1488.

19. "Patching and the p-adic local Langlands correspondence", joint with M. Emerton, T. Gee, D. Geraghty, V. Paskunas and S.W. Shin, *Cambridge Journal of Math.* 4 (2016), No. 2, 197-287.

20. "Local-global compatibility and monodromy for $l = p$", *Algebra & Number Theory* 8 (2014), no. 7, 1597-1646.

21. "Local-global compatibility and the action of monodromy on nearby cycles", *Duke Mathematical Journal* 161 (2012), no. 12, 2311-2413.

22. "Multiplicative semigroups related to the $3x + 1$ problem", *Adv. Appl. Math.* 45 (2010), no. 3, 373-389.

Selected awards and honors		
	· Elected member of Academia Europaea	2024
	· New Horizons Prize in Mathematics	2023
	· ICM Invited Speaker, Number Theory and Algebraic Geometry Sections	2022
	· Philip Leverhulme Prize	2020
	· Prize of the European Mathematical Society	2020
	· Fellow of the American Mathematical Society	2020
	· Whitehead Prize, London Mathematical Society	2018
	· Von Neumann Fellowship, IAS (declined in order to go on maternity leave)	Spring 2018
	· Alice T. Schafer Prize, Association for Women in Mathematics	2007
	· Putnam Fellow	2003, 2004
	· 2 Gold Medals and 1 Silver Medal, International Mathematical Olympiad	2001–2003

Teaching experience		
	· Seminar on local Langlands for non-quasi-split groups, University of Bonn	Summer 2023
	· Seminar on categorical local Langlands, University of Bonn	Winter 2022/2023
	· The arithmetic of the Langlands program, University of Bonn	Winter 2022/2023
	· Teaching accreditation: Fellow of the Higher Education Academy	September 2019
	· Algebraic number theory (M3P15), Imperial College London	Spring 2019
	· Seminar on the Weil Conjectures, University of Bonn	Summer 2017
	· Étale cohomology, University of Bonn	Winter 2016/2017
	· Linear algebra and applications (MAT202, 2 sections), Princeton University	Spring 2015
	· Topics in Number Theory: Introduction to Modular Forms and L-functions (MAT 419), Princeton University	Spring 2014
	· Numbers, Equations and Proofs (MAT214), Princeton University	Fall 2013
	· Linear algebra and differential equations (Math 21b, 2 sections), Harvard University	Spring 2012
	· Multivariable calculus (Math 21a), Harvard University	Fall 2008, 2009, 2010

Major invited lectures		
	· Invited Speaker, 2022 ICM (r[1])	July 2022
	· Morning Lecture, British Mathematical Colloquium, King's College	June 2022
	· EMS Prize Lecture, 8th ECM, Slovenia (r)	June 2021
	· AMS Current Events Bulletin, AMS/MAA Joint Math Meetings (r)	January 2021
	· Plenary talk, Journées Arithmétiques, Caen, France	July 2017
	· Arizona Winter School, minicourse (4 talks)	March 2017
	· Sophus Lie Days, Cornell (2 talks)	April 2015
	· MSRI/Evans lecture, Berkeley	November 2014

[1]Denotes a talk delivered remotely.

MINICOURSES	· Uhlenbeck Lecture Course, Program for Women and Mathematics, IAS (4 hours)	May 2024
	· Ruth Moufang Lectures, Frankfurt (3 hours)	March 2024
	· IHES Summer School on the Langlands Program (3.5 hours, joint with Sug Woo Shin)	July 2022
	· Alpbach Workshop (4.5 hours)	June 2022
	· School in Arithmetic Geometry, Essen (5 hours)	September 2018
	· Algebraic Groups and Geometrization of Local Langlands, ENS Lyon (4 hours)	June 2018
	· UK–Japan Winter School 2018 on Number Theory (2 hours)	January 2018
	· Texel Island Summer School (4 hours)	August 2017
	· Arizona Winter School (4 hours)	March 2017
	· The Langlands correspondence in arithmetic and geometry, KIAS, (5 hours)	August 2016
OTHER INVITED TALKS	· Arithmetic geometry - a conference in honour of Hélène Esnault on the occasion of her 70th birthday	April 2024
	· Turkish Mathematical Society Distinguished Colloquium (r)	March 2024
	· Annual meeting, Simons collaboration on Perfection in Algebra, Geometry and Topology	March 2024
	· Monodromy and its applications, Princeton	December 2023
	· Princeton colloquium	December 2023
	· Oxford colloquium	December 2023
	· A conference in arithmetic algebraic geometry in memory of Jan Nekovář, IHES	October 2023
	· Algebraische Zahlentheorie, Oberwolfach	June 2023
	· COGENT seminar (r)	May 2023
	· EMS Women in Mathematics Day (r)	May 2023
	· Shimura varieties and L-functions, MSRI (r)	March 2023
	· Arithmetic of Shimura varieties, Oberwolfach	January 2023
	· MPIM Bonn Arbeitsgemeinschaft Arithmetische Geometrie seminar	January 2023
	· Conference on arithmetic algebraic geometry, Darmstadt	October 2022
	· Arithmetic geometry, Hodge theory, regulators, periods, and heights, Cambridge	June 2022
	· Franco-Asian Summer School on Arithmetic Geometry, Luminy (r)	June 2022
	· VaNTAGe Seminar (r)	May 2022
	· Simons Symposium on p-adic Hodge theory	May 2022
	· Number Theory Web Seminar (r)	April 2022
	· EMS 30th anniversary, ICMS, Edinburgh	March 2022
	· Non–archimedean geometry and applications, Oberwolfach	February 2022
	· Hamburg Colloquium (r)	January 2022
	· Queen Mary Algebra and Number Theory seminar	November 2021
	· Warwick Colloquium	November 2021
	· Zoom Algebraic Geometry seminar (r)	October 2021
	· Heilbronn Annual Conference (r)	September 2021
	· Arithmetic geometry - Takeshi 60, Tokyo (r)	September 2021

- Arithmetic of Shimura varieties over global fields, Cetraro — August 2021
- EWM Minisymposium at the 8th ECM, Slovenia (r) — June 2021
- Séminaire Arithmétique et Géométrie Algébrique, Orsay (r) — May 2021
- Darmstadt Colloquium (r) — May 2021
- Hausdorff Colloquium, University of Bonn (r) — April 2021
- University of Minnesota Colloquium (r) — November 2020
- Berkeley–Caltech–Stanford number theory seminar (r) — November 2020
- MIT number theory seminar (r) — November 2020
- ETH number theory seminar (r) — October 2020
- Recent Advances in Modern p-adic Geometry (r) — August 2020
- Cross-Atlantic Representation Theory and Other Topics (r) — May 2020
- Princeton/IAS number theory seminar (r) — April 2020
- Warwick number theory seminar — February 2020
- Arithmetic study group, Durham — January 2020
- Guest talk in Paris study group on my work — January 2020
- International Colloquium on Arithmetic Geometry, Tata Institute, Mumbai — January 2020
- Zürich colloquium in mathematics — November 2019
- Modular representation theory, Clay Math Institute, Oxford — October 2019
- University of Bonn Arbeitsgemeinschaft Arithmetische Geometrie seminar — July 2019
- Arithmetic Geometry in Carthage, Tunisia — June 2019
- Program on Serre conjectures and the p-adic local Langlands program, Padova — June 2019
- Cambridge number theory seminar — April 2019
- Caltech number theory seminar — April 2019
- Colloquium, Caltech — April 2019
- UCLA number theory seminar — April 2019
- Hot Topics: Recent progress in the Langlands program, MSRI (2 talks) — April 2019
- Colloquium, University of Sheffield — February 2019
- Algebraic groups, Lie algebras, and their representations, Max Planck Institute for Mathematics, Bonn — November 2018
- Oxford number theory seminar — November 2018
- Plenary talk, Young Researchers in Algebraic Number Theory, Sheffield — November 2018
- Cohomology of algebraic varieties, Luminy — October 2018
- Special seminar, University of Regensburg — July 2018
- Swiss Number Theory Days 2018, Basel — June 2018
- Séminaire de Géométrie Arithmétique Paris–Pékin–Tokyo, IHES — January 2018
- Instruments of algebraic geometry, Bucharest, Romania — September 2017
- Max Planck Number Theory seminar — July 2017
- Darmstadt Algebra seminar — July 2017
- University of Bonn Arbeitsgemeinschaft Arithmetische Geometrie seminar (2 talks) — June 2017
- p-adic Hodge theory and automorphic forms, Beijing — June 2017

- Dutch Intercity number theory seminar, Amsterdam — May 2017
- Simons Symposium on p-adic Hodge theory — May 2017
- Modularity and diophantine equations: Exploring Wiles's universe, Barcelona Mathematical Days — April 2017
- University of Zürich number theory seminar — April 2017
- Arbeitsgemeischaft: Higher Gross Zagier Formulas, Oberwolfach — April 2017
- Local zeta functions and the arithmetic of moduli spaces: a conference in memory of Jun-Ichi Igusa, Johns Hopkins University — March 2017
- Colloquium, Oxford — March 2017
- Essen Oberseminar — February 2017
- Special session on Automorphic forms and arithmetic, JMM, Atlanta — January 2017
- Deformation theory, completed cohomology, Leopoldt conjecture and K-theory, Luminy — December 2016
- London–Paris number theory seminar, Paris — November 2016
- Members' seminar, IAS — October 2016
- University of Bonn Arbeitsgemeinschaft Arithmetische Geometrie seminar — October 2016
- Arithmetic geometry, Oberwolfach — August 2016
- Geometric methods in the mod p Langlands correspondence, Pisa (2 talks) — June 2016
- Workshop on Shimura varieties and related topics, Taipei — June 2016
- Workshop on the p-adic Langlands program and related topics, Indiana University, Bloomington — May 2016
- Advances in geometric representation theory, University of Michigan (2 talks) — May 2016
- Arbeitsgemeinschaft: The geometric Langlands conjecture, Oberwolfach — April 2016
- Colloquium, UCLA — March 2016
- UCLA number theory seminar — March 2016
- Colloquium, Yale — February 2016
- Colloquium, University of Wisconsin — January 2016
- Special mathematics seminar, MIT — January 2016
- Colloquium, University of Washington — January 2016
- Colloquium, Berkeley — January 2016
- Colloquium, UC Irvine — January 2016
- Northwestern number theory seminar — January 2016
- UCSD number theory seminar — January 2016
- Colloquium, UCSD — January 2016
- BU number theory seminar — January 2016
- Colloquium, University of Toronto — January 2016
- Hausdorff Center for Mathematics seminar, Bonn — December 2015
- Colloquium, UIUC — December 2015
- UT Austin number theory seminar — December 2015
- IAS Members' Seminar — December 2015
- Colloquium, Michigan State University — December 2015
- Colloquium, University of Pennsylvania — December 2015

- Colloquium, Rice University   December 2015
- Colloquium, Boston College   December 2015
- Michigan Group, Lie and Number theory seminar   November 2015
- Colloquium, University of Southern California   November 2015
- Colloquium, University of Notre Dame   November 2015
- University of Minnesota Lie Theory seminar   November 2015
- Colloquium, University of Minnesota   November 2015
- University of Pennsylvania Algebra seminar   November 2015
- Harvard/MIT Algebraic Geometry seminar   October 2015
- BU Number theory seminar   October 2015
- Joint Columbia-CUNY-NYU number theory seminar   October 2015
- Wisconsin number theory seminar   October 2015
- University of Chicago number theory seminar   October 2015
- Northwestern number theory seminar   October 2015
- AMS Central Fall Sectional Meeting (Chicago, IL), special session on The Langlands program and related topics   October 2015
- Motives and automorphic forms, Clay Math Institute, Oxford   September 2015
- Johns Hopkins number theory seminar   September 2015
- Algebraic Geometry Bootcamp, University of Utah   July 2015
- Around Langlands correspondences, Université Paris Sud, Orsay   June 2015
- Journées arithmétiques a Lyon, ÉNS Lyon   June 2015
- IAS Program for Women and Mathematics, Princeton Day   May 2015
- p-adic methods in the theory of classical automorphic forms, CRM, Montreal   March 2015
- UCLA number theory seminar   December 2014
- Automorphic forms, Shimura varieties, Galois representations and L-functions (Michael Harris' 60th birthday conference), MSRI   December 2014
- UT Austin number theory seminar   November 2014
- Bay Area Number Theory and Arithmetic Geometry Day, Berkeley   November 2014
- Connections for Women: New Geometric Methods in Number Theory and Automorphic Forms, MSRI   August 2014
- Algebraische Zahlentheorie, Oberwolfach   July 2014
- Arithmétique des varietes de Shimura et des formes automorphes et Applications, Luminy, France   July 2014
- University of Bonn Arbeitsgemeinschaft Arithmetische Geometrie seminar   June 2014
- Caltech number theory seminar   May 2014
- Johns Hopkins and University of Maryland Algebra and Number Theory Day   April 2014
- Hot Topics Workshop on Perfectoid Spaces, MSRI   February 2014
- Princeton/IAS number theory seminar   December 2013
- Princeton junior number theory seminar (2 talks)   December 2013
- CUNY collaborative number theory seminar   November 2013
- University of Pennsylvania Galois seminar   November 2013

· Purdue number theory seminar	April 2013
· University of Chicago number theory seminar	April 2013
· Stanford number theory seminar	April 2013
· UIUC number theory seminar	March 2013
· Colloquium, Caltech	March 2013
· Southern California Number Theory Days	March 2013
· UT Austin number theory seminar	March 2013
· AWM Workshop, JMM, San Diego	January 2013
· UIC number theory seminar	November 2012
· Workshop on p-adic cohomology and its applications to arithmetic geometry, Tohoku University, Sendai, Japan	October 2012
· Towards a local proof of Local Langlands workshop, UIC (2 lectures)	May 2012
· BU number theory seminar	March 2012
· Workhsop on Shimura varieties, Fields Institute, Toronto	March 2012
· Workshop for graduate students, Fields Institute, Toronto (2 lectures)	March 2012
· University of Michigan Lie groups and number theory seminar	March 2012
· University of Pennsylvania Galois seminar	February 2012
· MIT number theory seminar	February 2012
· Caltech number theory seminar	December 2011
· University of Chicago number theory seminar	October 2011
· Northwestern number theory seminar	October 2011
· Harvard number theory seminar	October 2011
· Workshop on Shimura varieties and Rapoport-Zink spaces, Tokyo, Japan	July 2011
· Automorphic forms seminar, Jussieu	June 2011
· Workshop on Galois representations and automorphic forms, IAS	March 2011
· Galois representations seminar, IAS	January 2011
· Program for Women and Mathematics, Institute for Advanced Study	May 2007

OUTREACH TALKS		
	· Women in Number Theory and Geometry retreat, UK	April 2023
	· Invited Speaker, Invariants, Oxford (r)	March 2021
	· Invited Speaker, Trinity College Maths Society, Cambridge (r)	March 2021
	· Inspirational Lecture, Imperial College	November 2020
	· Invited speaker, LMS Prospects in Mathematics, University of Bath (r)	September 2020
	· Invited Speaker, European Girls' Math Olympiad, Busteni, Romania	April 2016
	· Invited Speaker, Women in Math and Statistics, Harvard	April 2016

PHD STUDENTS	· Bence Hevesi (primary supervisor)	2020–2024 (expected)
	· Louis Jaburi (primary supervisor)	2020–2024
	· Mafalda Santos (primary supervisor)	2018–2023
	· Pol van Hoften (primarily advised by James Newton)	2017–2021
	· Supervised London School of Geometry and Number Theory mini-projects for: Mafalda Santos, Gabriel Micolet, Abigail Burton, Soham Karwa, Bence Hevesi	2018–

POSTDOCS MENTORED	· Alice Pozzi (supported by my Leverhulme Prize)	2022–2023
	· Sally Gilles (supported by my ERC Starting Grant)	2020–2022
	· João Lourenço (supported by my ERC Starting Grant)	2020–2021
	· Rong Zhou (supported by my ERC Starting Grant)	2020
	· Matteo Tamiozzo (supported by my ERC Starting Grant)	2019–2022

CONFERENCE ORGANISATION	· Lead Organiser (with Matthew Emerton, Brandon Levin, David Savitt, and Mingjia Zhang), Categorical and geometric structures in the Langlands program, Casa Matemática Oaxaca	September 2025
	· Scientific Committee, Journées Arithmétiques	July 2025
	· Co-organiser (whith Chandrashekhar Khare and James Newton), Clay Research Workshop on the Langlands program, Oxford	October 2024
	· Co-organiser (with Bhargav Bhatt, Gerd Faltings, and Peter Scholze), Arithmetic Geometry, Oberwolfach	July 2024
	· Scientific Committee, Panorama of Mathematics II, Hausdorff Center for Mathematics	October 2023
	· Co-organiser (with Frank Calegari, Laurent Fargues, and Peter Scholze) of the Hausdorff Trimester Program "The arithmetic of the Langlands Program", HIM, Bonn. This includes the organization of one summer school and two major conferences. The program was originally scheduled for Summer 2020 and rescheduled due to Covid-19.	Summer 2023
	· Scientific Committee, Journées Arithmétiques	Summer 2023
	· Scientific Advisory Board, Women in Numbers Europe 4	August 2022
	· Co-organiser (with Jessica Fintzen), Community-building in the Langlands program, University of Bonn	August 2022
	· Co-organiser (with Ahmed Abbes, Ariane Mézard, Takeshi Saito, Takeshi Tsuji, and Weizhe Zheng), Franco-Asian Summer School on Arithmetic Geometry, Luminy	May 2022
	· Co-organizer (with Bhargav Bhatt, Matthew Satriano and Ila Varma), Fields Medal Symposium in honour of Peter Scholze, Fields Institute	October 2021
	· Co-organizer (with Eran Assaf, Fred Diamond, and James Newton), Workshop on p-adic Langlands, London	May 2019
	· Co-organizer, London–Paris Number Theory Seminar	Spring 2019–Fall 2022
	· Co-organizer (with Frank Calegari and Richard Taylor), Special session on "Automorphic forms and arithmetic", Joint Math Meetings, Atlanta, GA	January 2017
	· Co-organizer (with Richard Taylor), Workshop on Emerging Topics: Torsion classes and modularity, IAS	November 2016

EDITORIAL WORK	· Editor, Journal of the European Mathematical Society	January 2023–
	· Editor, Crelle (Journal für die reine und angewandte Mathematik)	November 2022–
	· Editor, Mathematische Zeitschrift	2021–2024
	· Editor, International Mathematical Research Notices	2020–2023

PROFESSIONAL SERVICE - EXTERNAL COMMITTEES	· LMS Prize Committee	2021–2024
	· LMS Research Policy Committee	2021–2023
	· AMS Mathematical Surveys and Monographs Editorial Committee	2021–2023
	· Royal Society International Exchanges Committee	2019–2020
	· AMS-Simons Travel Grant committee (Chair 2018-2019)	2017–2020

PROFESSIONAL SERVICE - INTERNAL COMMITTEES	· Pure Maths Chapman hiring panel (Lead), Imperial College London	2023–3024
	· Hiring panel for Lecturer / Senior Lecturer in Pure Mathematics, Imperial College London	September 2023
	· Visiting Committee, MPIM Bonn	2022–2023
	· Hiring committee for W3 position, University of Bonn	2022–2023
	· Hiring panel for Lecturer / Senior Lecturer in Number Theory (Lead), Imperial College London	January 2022
	· Search committee for Lecturer / Senior Lecturer in Number Theory (Lead), Imperial College London	Fall 2021
	· Equality, Diversity and Inclusion Committee, Imperial College London	2021–2023
	· Pure Maths Chapman hiring panel, Imperial College London	2017–2018

PROFESSIONAL SERVICE - OTHER	· Panel member for National Science Foundation review panel	2022–2023
	· Panel member for the DFG	March 2021
	· Internal examiner for the PhD thesis of Mingjia Zhang, University of Bonn	August 2023
	· Internal examiner for the PhD thesis of Raffael Singer, Imperial College London	November 2020
	· External examiner for the PhD thesis of Zhiyou Wu, Cambridge University	October 2019
	· External examiner for the PhD thesis of Ben Heuer, King's College London	August 2019
	· Advised Timo Noethel's Erasmus Bachelor Thesis, Humboldt University	Summer 2019
	· Breakout Session Leader for Royal Society New Research Fellows' Induction Day	November 2020
	· Co-organizer, London Number Theory Seminar	Fall 2018–
	· Co-organizer, London Number Theory Study Group	Fall 2017–
	· Organized a reading course on Shimura varieties, University of Bonn	Summer 2017
	· Ad hoc reviewer for the NSF, ERC, EPSRC, The Royal Society, DFG, Maths in Greater Paris	2017–
	· Panel member for National Science Foundation review panel	2016–2017
	· Member of the jury for the PhD defense of Macarena Peche Irissarry, Université Pierre et Marie Curie	November 2016
	· Co-organizer, Princeton/IAS number theory seminar	2013-2014, 2015-2016
	· Advised Siyan Daniel Li's junior project on "The zeta function of a modular curve", Princeton University	Spring 2016

- Reader for Ila Varma's PhD thesis on Local-Global Compatibility,   Summer 2015
  Princeton University
- Advised Siyan Daniel Li's summer project on Perfectoid Spaces,   Summer 2015
  Princeton University
- Reader for Isabelle Nogues's senior thesis on p-adic Analysis,   Spring 2015
  Princeton University
- Co-organizer, MSRI graduate student working seminar on "The geometric   Fall 2014
  Satake correspondence"
- Co-leader, Women in Numbers 3, Banff   Spring 2014
- Co-leader, Women in Numbers Europe, Luminy   Fall 2013
- Advised Isabelle Nogues's junior project on Elliptic Curve Cryptography,   Spring 2014
  Princeton University
- Referee for Journal of the AMS, Duke Math. J., Compositio, Forum of Math.   2013-present
  Sigma, Math. Annalen, IMRN, Journal of Algebraic Geometry etc.
- Served on professional development panels (at Algebraic Geometry Bootcamp,   2013-present
  MSRI, Princeton, University of Chicago)
- Co-organizer and co-founder, Women in Math Lunches, Harvard University   2008-2012