Rebecca Bellovin

Curriculum vitae

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https://rmbellovin.github.io

Employment

2024–present **Assistant Professor**, *University of Connecticut*

2023–2024 **Member**, *Institute for Advanced Study*

2022–2024 **Rankin–Sneddon Fellow**, *University of Glasgow*

June–August 2023 **Visitor**, *Hausdorff Research Instute for Mathematics*, Arithmetic of the Langlands Program

2019–2021 **Distributed systems engineer**, *Ably Realtime*

2018–2019 **Research Associate**, *Imperial College London*

2015–2018 **Junior Research Fellow**, *Imperial College London*

2014–2015 **NSF Mathematical Sciences Postdoctoral Research Fellow**, *University of California, Berkeley*

2013–2014 **Research Associate**, *Imperial College London*

Education

2013 **Ph. D.**, *Stanford University*
Advisor: Brian Conrad
Thesis: p-adic Hodge theory in rigid analytic families

2008 **B.A.**, *Columbia University*
Summa cum laude, with honors in mathematics

Preprints and Publications

[1] R. Bellovin, H. Cai, and S. Howe. "Characterizing perfectoid covers of abelian varieties". `https://arxiv.org/abs/2501.03974`. Submitted. 2025.

[2] R. Bellovin, N. Borade, A. Hilado, K. Kansal, H. Lee, B. Levin, D. Savitt, and H. Wiersema. "Irregular loci in the Emerton-Gee stack for GL_2". In: *Journal für die reine und angewandte Mathematik (Crelles Journal)* 2024.814 (2024), pp. 9–46.

[3] R. Bellovin. "Modularity of trianguline Galois representations". In: *Forum of Mathematics, Sigma* 12 (2024), e3.

[4] R. Bellovin. "Cohomology of (φ, Γ)-modules over pseudorigid spaces". In: *Int. Math. Res. Not.* (May 2023).

[5] R. Bellovin. "Galois representations over pseudorigid spaces". In: *J. de Théor. Nombres Bordeaux* 35.1 (2023), pp. 283–334.

[6] R. Bellovin and O. Venjakob. "Wach modules, regulator maps, and ε-isomorphisms in families". In: *Int. Math. Res. Not.* 16 (2019), pp. 5127–5204.

[7] R. Bellovin and T. Gee. "G-valued local deformation rings and global lifts". In: *Algebra Number Theory* 13.2 (2019), pp. 333–378.

[8] R. Bellovin. "Generic smoothness for G-valued potentially semi-stable deformation rings". In: *Ann. Inst. Fourier (Grenoble)* 66.6 (2016), pp. 2565–2620.

[9] R. Bellovin. "p-adic Hodge theory in rigid analytic families". In: *Algebra Number Theory* 9.2 (2015), pp. 371–433.

[10] R. Bellovin, S. A. Garthwaite, E. Ozman, R. Pries, C. Williams, and H. J. Zhu. "Newton polygons for a variant of the Kloosterman family". In: *Women in Numbers 2: Research Directions in Number Theory*. Vol. 606. Contemp. Math. Amer. Math. Soc., Providence, RI, 2013, pp. 47–63.

Fellowships

2014–2015 **NSF Mathematical Sciences Postdoctoral Research Fellowship**, *University of California, Berkeley*

2010–2012 **NSF Graduate Research Fellowship**, *Stanford University*

2008–2010 **RTG Fellowship**, *Stanford University*

Professional Service

Conferences

August 2021 Project co-leader — *A Pair of Automorphic Workshops*

October 2019 Co-organizer — *Modularity and Moduli Spaces, Casa Matematica Oaxaca (CMO), Mexico*

July 2017 Teaching assistant — *Automorphic Forms and the Langlands Program, MSRI*

March 2017 Project assistant — *Perfectoid Spaces, Arizona Winter School*

October 2016 Co-organizer — *Oberwolfach seminar on perfectoid spaces*

Departmental service

Fall 2016 Co-organizer — *London Number Theory Seminar*

2015–2016 London School of Geometry and Number Theory (Ph.D. program) admissions committee

Refereeing

- *Algebra & Number Theory*
- *Mathematische Zeitschrift*
- *Commentarii Mathematici Helvetici*
- *Journal of Number Theory*
- *Compositio Mathematica*
- *Acta Arithmetica*

Invited Talks

2025 University of Connecticut — *Algebra Seminar*

2025 MIT — *MIT number theory seminar*

2025 CUNY *Graduate Center Arithmetic Geometry Seminar*

2024 ICMS *p-adic Families of Automorphic Forms: Theories and Applications*

2024 GALF Closing Conference: Galois Representations, Automorphic Forms and their L-Functions

2024 British Mathematical Colloquium

2024 Columbia University *Automorphic Forms and Arithmetic*

2023 Princeton/IAS Joint Number Theory Seminar

2023 Johns Hopkins University *Number Theory Seminar*

2023 Universität Heidelberg *Non-archimedean geometry and eigenvarieties*

2022 Simons Symposium on p-adic Hodge Theory

2021 Canadian Mathematical Society Winter Meeting

2021 Zoom *Recent Advances in Modern p-Adic Geometry*

2019 Durham University *Algebra and Number Theory Seminar*

2018 University of Exeter *Workshop on Stark's conjectures, Iwasawa theory and related topics*

2017 Cambridge University *Number Theory Seminar*

2017 University of Amsterdam *Arithmetic and Algebraic Geometry seminar*

2017 Oxford University *Number Theory Seminar*

2017 Warwick University *Number Theory Seminar*

2016 Indiana University *Conference on the p-adic Langlands programme and related topics*

2016 Universität Duisburg-Essen *Essener Seminar für Algebraische Geometrie und Arithmetik*

2016 Universität Heidelberg *Seminar der Forschergruppe 'Symmetrie, Geometrie und Arithmetik'*

2015 University of Bristol *Heilbronn Number Theory Seminar*

2015 AMS Summer Institute in Algebraic Geometry

2015 Northwestern University *Number Theory Seminar*

2015 University of Chicago *Number Theory Seminar*

2015 University of California, Los Angeles *Number Theory Seminar*

2014 Universität Heidelberg *Seminar der Forschergruppe 'Symmetrie, Geometrie und Arithmetik'*

2014 British Mathematical Colloquium

2014 Cambridge University *Number Theory Seminar*

2013 London Number Theory Seminar

2013 University of California, Berkeley *Number Theory Seminar*

2013 Boston University *Number Theory Seminar*

2013 University of California, San Diego *Number Theory Seminar*

Teaching

Fall 2024 **Instructor**
Teaching 'Mathematics 2410Q: Elementary Differential Equations' at the University of Connecticut

Spring 2023 **Instructor**
Taught 'Maths 1' (Introduction to pure mathematics) to first-year undergraduates at the University of Glasgow

Fall 2022 **Instructor**
Taught 'Introduction to Real Analysis' to second-year undergraduates at the University of Glasgow.

Spring 2022 **Instructor**
Taught 'Galois Theory' to fourth-year undergraduates at the University of Glasgow.

July 2017 **Teaching assistant**
Teaching assistant for graduate course given by Kevin Buzzard at MSRI.

Spring 2017 **Instructor**
Taught 'Group Representation Theory' to third- and fourth-year undergraduates at Imperial College.

March 2017 **Project assistant**
Project assistant for graduate course given by Jared Weinstein at Arizona Winter School.

Spring 2013 **Teaching assistant**
Administrative teaching assistant for Math 51 at Stanford. Organized other TAs and students' extensions, absences, and accommodations.

Fall 2010 **Teaching assistant**
Teaching assistant for Math 51 at Stanford. Taught section, held office hours, and graded exams.

Summer 2005, 2008 **Counselor**
Counselor at PROMYS. Supervised students, helped with problem sets, and gave lectures to high school students and college students.

2006–2008 **Course assistant**
Undergraduate course assistant at Columbia University. Responsible for grading problem sets, holding office hours, and sometimes leading discussion section for the following courses:

- Math W4045: Algebraic Curves
- Math W4042: Introduction to Modern Algebra II (Galois theory)
- Math V3025: Making and Breaking Codes
- Math V1207: Honors Mathematics A (calculus and linear algebra)

Supervision

2017 David Nielsen-Scott, 'Weil Conjectures for Algebraic Curves' *M4R essay, Imperial College*

References

- Prof. Tara Brendle
  School of Mathematics and Statistics
  University of Glasgow
  tara.brendle@glasgow.ac.uk
  (teaching)
- Prof. Brian Conrad
  Department of Mathematics
  Stanford University
  conrad@math.stanford.edu
- Prof. Toby Gee
  Department of Mathematics
  Imperial College London
  toby.gee@imperial.ac.uk
- Prof. David Savitt
  Department of Mathematics
  Johns Hopkins University
  savitt@jhu.edu