

# Rebecca Bellovin

## Curriculum vitae

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### Employment

- 2023–2024 **Member**, *Institute for Advanced Study*
- June–August 2023 **Visitor**, *Hausdorff Research Institute for Mathematics*, Arithmetic of the Langlands Program
- 2022– **Rankin–Sneddon Fellow**, *University of Glasgow*
- 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. “Modularity of trianguline representations”. Submitted. 2021. URL: <https://arxiv.org/abs/2108.02823>.
- [2] R. Bellovin. “Cohomology of  $(\varphi, \Gamma)$ -modules over pseudorigid spaces”. In: *International Mathematics Research Notices* (May 2023).
- [3] R. Bellovin. “Galois representations over pseudorigid spaces”. In: *J. de Théor. Nombres Bordeaux* 35.1 (2023), pp. 283–334.
- [4] R. Bellovin and O. Venjakob. “Wach modules, regulator maps, and  $\varepsilon$ -isomorphisms in families”. In: *Int. Math. Res. Not.* 16 (2019), pp. 5127–5204.
- [5] R. Bellovin and T. Gee. “ $G$ -valued local deformation rings and global lifts”. In: *Algebra Number Theory* 13.2 (2019), pp. 333–378.
- [6] R. Bellovin. “Generic smoothness for  $G$ -valued potentially semi-stable deformation rings”. In: *Ann. Inst. Fourier (Grenoble)* 66.6 (2016), pp. 2565–2620.

- [7] R. Bellovin. “ $p$ -adic Hodge theory in rigid analytic families”. In: *Algebra Number Theory* 9.2 (2015), pp. 371–433.
- [8] R. Bellovin et al. “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*

## Invited Talks

- 2023 Columbia University *Automorphic Forms and Arithmetic*
- 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	<i>Workshop on Stark's conjectures, Iwasawa theory and related topics</i>
2017	Cambridge University	<i>Number Theory Seminar</i>
2017	University of Amsterdam	<i>Arithmetic and Algebraic Geometry seminar</i>
2017	Oxford University	<i>Number Theory Seminar</i>
2017	Warwick University	<i>Number Theory Seminar</i>
2016	Indiana University	<i>Conference on the <math>p</math>-adic Langlands programme and related topics</i>
2016	Universität Duisburg-Essen	<i>Essener Seminar für Algebraische Geometrie und Arithmetik</i>
2016	Universität Heidelberg	<i>Seminar der Forschergruppe 'Symmetrie, Geometrie und Arithmetik'</i>
2015	University of Bristol	<i>Heilbronn Number Theory Seminar</i>
2015	AMS Summer Institute in Algebraic Geometry	
2015	Northwestern University	<i>Number Theory Seminar</i>
2015	University of Chicago	<i>Number Theory Seminar</i>
2015	University of California, Los Angeles	<i>Number Theory Seminar</i>
2014	Universität Heidelberg	<i>Seminar der Forschergruppe 'Symmetrie, Geometrie und Arithmetik'</i>
2014	British Mathematical Colloquium	
2014	Cambridge University	<i>Number Theory Seminar</i>
2013	London Number Theory Seminar	
2013	University of California, Berkeley	<i>Number Theory Seminar</i>
2013	Boston University	<i>Number Theory Seminar</i>
2013	University of California, San Diego	<i>Number Theory Seminar</i>

## Teaching

Spring 2023	<b>Instructor</b> Teaching 'Maths 1' (Introduction to pure mathematics) to first-year undergraduates at the University of Glasgow
Fall 2022	<b>Instructor</b> Teaching 'Introduction to Real Analysis' to second-year undergraduates at the University of Glasgow.
Spring 2022	<b>Instructor</b> Taught 'Galois Theory' to fourth-year undergraduates at the University of Glasgow.
July 2017	<b>Teaching assistant</b> 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@math.jhu.edu`