

# 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*

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### 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

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### Preprints and Publications

- [1] 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  $GL_2$ ”. Submitted. 2023. URL: <https://arxiv.org/abs/2309.13665>.
- [2] R. Bellovin. “Modularity of trianguline representations”. Submitted. 2021. URL: <https://arxiv.org/abs/2108.02823>.
- [3] R. Bellovin. “Cohomology of  $(\varphi, \Gamma)$ -modules over pseudorigid spaces”. In: *International Mathematics Research Notices* (May 2023).
- [4] R. Bellovin. “Galois representations over pseudorigid spaces”. In: *J. de Théor. Nombres Bordeaux* 35.1 (2023), pp. 283–334.
- [5] R. Bellovin and O. Venjakob. “Wach modules, regulator maps, and  $\varepsilon$ -isomorphisms in families”. In: *Int. Math. Res. Not.* 16 (2019), pp. 5127–5204.

- [6] R. Bellovin and T. Gee. “ $G$ -valued local deformation rings and global lifts”. In: *Algebra Number Theory* 13.2 (2019), pp. 333–378.
- [7] R. Bellovin. “Generic smoothness for  $G$ -valued potentially semi-stable deformation rings”. In: *Ann. Inst. Fourier (Grenoble)* 66.6 (2016), pp. 2565–2620.
- [8] R. Bellovin. “ $p$ -adic Hodge theory in rigid analytic families”. In: *Algebra Number Theory* 9.2 (2015), pp. 371–433.
- [9] 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*

## Invited Talks

- 2023 Columbia University *Automorphic Forms and Arithmetic*
- 2023 Johns Hopkins University *Number Theory Seminar*

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| 2023 | Universität Heidelberg                       | <i>Non-archimedean geometry and eigenvarieties</i>                                  |
| 2022 | Simons Symposium on $p$ -adic Hodge Theory   |   |
| 2021 | Canadian Mathematical Society Winter Meeting |   |
| 2021 | Zoom   | <i>Recent Advances in Modern <math>p</math>-Adic Geometry</i>                       |
| 2019 | Durham University                            | <i>Algebra and Number Theory Seminar</i>  |
| 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

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| Spring 2023 | <b>Instructor</b><br>Teaching 'Maths 1' (Introduction to pure mathematics) to first-year undergraduates at the University of Glasgow |
| Fall 2022   | <b>Instructor</b><br>Teaching '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’ *M&R 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`