Rebecca M. Bellovin

Curriculum vitae

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Citizenship: United States

I am a postdoctoral researcher in mathematics with programming experience and a longstanding interest in cryptography and security. I am now seeking a full-time position where I can apply my analytical skills in a fast-paced and collaborative environment.

Employment

2018–	**Research associate**, *Imperial College London*. EPSRC postdoc
2015–2018	**Junior Research Fellow**, *Imperial College London*.
2014–2015	**NSF postdoctoral fellow**, *University of California, Berkeley*. MSPRF Award Number 1401640
2013–2014	**Research associate**, *Imperial College London*. ERC postdoc

Education

2013	**Ph.D.**, *Stanford University*. Department of Mathematics Advisor: Brian Conrad Thesis: p-adic Hodge theory in rigid analytic families
2008	**B.A.**, *Columbia University*. Summa cum laude, with honors in mathematics

Skills and Experience

Research
- Designed and carried out long-term research projects in p-adic Hodge theory. Published 5 papers in leading journals and conference proceedings, including *International Mathematical Research Notices*.
- Took interdisciplinary approach to research, resulting in papers applying p-adic Hodge theory to other fields, including solving problems in Iwasawa theory and modularity lifting
- Awarded National Science Foundation Mathematical Sciences Postdoctoral Research Fellowship and Imperial College Research Fellowship

Collaboration
- Co-organized research seminars, study groups, and conferences, including co-writing grant application and selecting participants for the workshop Modularity and Moduli Spaces (Casa Matematica Oaxaca, October 2019)
- Served on the Ph.D. admissions commitee for the London School of Geometry and Number Theory, focusing on diversity and inclusion
- Collaborated with colleagues on projects, resulting in papers published in leading journals such as *Algebra & Number Theory*

Management	○ Selected researchers to speak in the weekly London Number Theory Seminar (Autumn 2016)
	○ Wrote syllabus and selected speakers for the London Number Theory Study Group on perfectoid spaces (Spring 2014)
	○ Co-wrote syllabus and gave talks in the Oberwolfach seminar on perfectoid spaces (October 2016)
Communication	○ Presented 18 invited research seminar talks and 4 invited conference talks
	○ Designed and delivered lectures, problem sets, tests, and exams to third- and fourth-year undergraduates at Imperial College for Group Representation Theory (Spring 2017)
	○ Worked with postgraduate students one-on-one as a teaching assistant for Automorphic Forms and the Langlands Program (MSRI, July 2017) and as a project assistant at the Arizona Winter School (March 2017)
	○ Spoke to undergraduates on "Public-key cryptography, blind signatures, and digital cash" (`https://wwwf.imperial.ac.uk/~rbellovi/writings/chaum.pdf` and "Cracking the Enigma"(`https://wwwf.imperial.ac.uk/~rbellovi/writings/enigma.pdf`)
Programming experience	○ C: Undergraduate Operating Systems course; assignments were in C and involved modifying the Linux kernel (A grade)
	○ Python: Participated in Sage Days 22; did all of the `https://developers.google.com/edu/python` exercises; used python to solve 10 Project Euler problems
	○ Go: Designed and implemented a certificate transparency log monitor, exporting results and metrics to sqlite3 and prometheus
	○ Java: AP Computer Science class (A grade)
	○ Unix/Linux: Have run NetBSD and Ubuntu on personal computers for 15 years
Computer science coursework	○ Computer Science Theory (Autumn 2004; A+ grade)
	○ Introduction to Cryptography (Spring 2007; A grade)
	○ Operating Systems (Spring 2007; A grade)
	○ Spoke on "Lattice problems in NP intersect coNP" (Aharonov–Regev) in Dan Boneh's lattices seminar (Autumn 2009)

Preprints and Publications

[1]   R. Bellovin. "Galois representations over pseudorigid spaces". In preparation. 2019.

[2]   R. Bellovin and T. Gee. "G-valued local deformation rings and global lifts". In: *Algebra & Number Theory* 13.2 (2019). URL: `https://doi.org/10.2140/ant.2019.13.333`.

[3]   R. Bellovin and O. Venjakob. "Wach modules, regulator maps, and epsilon-isomorphisms in families". In: *Int. Math. Res. Not.* (2019). To appear. URL: `https://arxiv.org/abs/1610.09920`.

[4]   R. Bellovin. "Generic smoothness for G-valued potentially semi-stable deformation rings". In: *Ann. Inst. Fourier (Grenoble)* 66.6 (2016), pp. 2565–2620. ISSN: 0373-0956. URL: `http://aif.cedram.org/item?id=AIF_2016__66_6_2565_0`.

[5]   R. Bellovin. "p-adic Hodge theory in rigid analytic families". In: *Algebra & Number Theory* 9.2 (2015), pp. 371–433. ISSN: 1937-0652. DOI: 10.2140/ant.2015.9.371. URL: `https://doi.org/10.2140/ant.2015.9.371`.

[6]   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. DOI: 10.1090/conm/606/12139. URL: `https://doi.org/10.1090/conm/606/12139`.