

Aaron Pollack

- CONTACT INFORMATION Department of Mathematics apollack@ucsd.edu
University of California San Diego
- RESEARCH INTERESTS Algebraic number theory. In particular: the arithmetic of automorphic forms; automorphic forms on exceptional groups; special values of L -functions; the Rankin-Selberg method; Siegel modular forms; arithmetic invariant theory
- EMPLOYMENT **Department of Mathematics, University of California, San Diego**
Associate Professor, 2022-Present
Assistant Professor, 2020-2022
- Department of Mathematics, Duke University**
Assistant Professor, 2017-2020 (on leave AY 2017-2018)
- Department of Mathematics, Institute for Advanced Study**
Member, 2017-2018
- Department of Mathematics, Stanford University**
Postdoctoral Research Fellow, 2014-2017
- EDUCATION **Princeton University**
Ph.D. Mathematics June 2014
- Dissertation: Rankin-Selberg integrals in many complex variables and Rankin-Selberg integrals associated to non-unique models
 - Advisor: Christopher Skinner
- Duke University**
B.S. in Mathematics and Physics May 2009
- Summa Cum Laude, with Highest Distinction in Mathematics
 - Undergraduate Thesis: Relations between derivations arising from modular forms
 - Undergraduate Thesis Advisor: Richard Hain
- SELECTED HONORS AND AWARDS 2022-present NSF CAREER Award
2021-2022 American Mathematical Society Centennial Research Fellowship
2021-present NSF Research Grant
2018-present Simons Collaboration Grant for Mathematicians
2014-2017 NSF Mathematical Sciences Postdoctoral Research Fellowship
2009-2012 NSF Graduate Research Fellowship
2008 Duke Faculty Scholar
2005-2009 Angier B. Duke Memorial Scholarship
- INVITED TALKS
- Joint Mathematics Meeting 2024 (San Francisco), AMS Special Session on Theta Correspondence, January 2024
 - Special colloquium, Center for Communications Research La Jolla, October 2023
 - International Seminar on Automorphic forms (online), October 2023
 - Invited address, AMS Fall Central Sectional, Creighton University, October 2023

- Arithmetic Geometry and Algebraic Groups conference, University of Virginia, May 2023
- Shimura Varieties and L-functions conference, MSRI/SL Math, March 2023
- Joint Mathematics Meeting 2023 (Boston), AMS Special Session on Automorphic Forms and Representation Theory, January 2023
- Caltech Number Theory Seminar, October 2022
- Crossing the Bridge: New Connections in Number Theory and Physics, Isaac Newton Institute, August 2022
- Research Innovations and Diverse Collaborations workshop (4 talk lecture series), University of Oregon, July 2022
- AMS Special Session on Recent Advances on the Langlands Program, May 2022
- Minimal Representations and Theta Correspondence Conference, ESI Vienna, April 2022
- AMS Special Session on Recent Developments in Automorphic Forms and Representations of p-adic Groups, March 2022
- Kansas State University Number Theory Seminar, March 2022
- Arizona Winter School, 4 talk lecture series, March 2022
- Yale Geometry, Representation theory and Physics Seminar, February 2022
- UCSD Number Theory Seminar, February 2022
- UCLA Number Theory Seminar, November 2021
- Blackwell-Tapia conference, November 2021
- PUNDit at IPAM (workshop for undergraduates), October 2021
- Utah BRIDGES Conference (3 talk lecture series), July 2021
- POSTECH Number Theory Seminar, May 2021
- University of Utah Colloquium, April 2021
- Purdue Number Theory Seminar, March 2021
- AMS Special Session on Recent Developments in Automorphic Representations, March 2021
- Harvard Number Theory Seminar, March 2021
- Purdue Colloquium, February 2021
- Conference “Automorphic forms, automorphic representations, Galois representations, and its related topics” at RIMS, January 2021
- Paul Sally Midwestern Representation Theory Conference, October 2020
- UCSD Number Theory Seminar, October 2020
- Conference “Reductive groups 2020”, June 2020
- Colloquium at UCSD, January 2020
- Conference “Modular forms” at Oberwolfach, December 2019
- Joint BC-MIT Number Theory Seminar, October 2019
- Johns Hopkins Number Theory Seminar, October 2019
- Conference “Modular forms on higher rank groups”, TU Darmstadt, September 2019
- AMS Special Session on Special Values of L-functions and Arithmetic Invariants in Families, UConn Hartford, April 2019

- Automorphic forms and String theory Seminar, Simons Center Stonybrook, March 2019
- UChicago Number Theory Seminar, January 2019
- Northwestern Number Theory Seminar, January 2019
- Conference “On the Langlands Program: Endoscopy and Beyond”, NUS, January 2019
- Oregon Number Theory Seminar, May 2018
- Simons Symposium on Relative Trace Formulas, April 2018
- Columbia Automorphic Forms and Arithmetic Seminar, April 2018
- Princeton/IAS Number Theory Seminar, April 2018
- Purdue Number Theory Seminar, November 2017
- Workshop on Special Cycles on Shimura Varieties and Iwasawa Theory, EPFL, August 2017
- Bay Area Algebra and Number Theory Day, April 2017
- Southern California Number Theory Day, March 2017
- University of Michigan Number Theory Seminar, February 2017
- Duke Number Theory Seminar, January 2017
- University of Minnesota Number Theory Seminar, December 2016
- AMS special session on Representation Theory, Automorphic forms, and related topics, October 2016
- Ohio State Number Theory Seminar, March 2016
- Utah Representation Theory and Number Theory Seminar, March 2016
- South Osaka Automorphic Representation conference, February 2016
- UCLA Number Theory Seminary, February 2016
- Duke-UNC Number Theory Seminar, January 2016
- Palmetto Number Theory Series XXV, Clemson University, Postdoctoral plenary speaker, December 2015
- Stanford Number Theory Seminar, September 2014
- Harvard Number Theory Seminar, April 2014
- Workshop on Grothendieck-Teichmüller theory and Multiple Zeta Values, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, April 2013
- Workshop on Multiple Zeta Values, Modular Forms, and Elliptic Motives, Heilbronn Institute for Mathematical Research, Bristol, UK, May 2011
- Duke Algebraic Geometry Seminar, April 2009

1. Johnson-Leung, J., McGlade, F., Negrini, I., Pollack, A., and Roy, M. “The quaternionic Maass Spezialschar on split $SO(8)$ ”, *preprint*
<https://arxiv.org/abs/2401.15277>
2. Pollack, A. “Computation of Fourier coefficients of automorphic forms of type G_2 ”, *preprint*
<https://arxiv.org/abs/2401.02922>
3. Pollack, A. “Exceptional theta functions and arithmeticity of modular forms on G_2 ”, *preprint*
<https://arxiv.org/abs/2211.05280>
4. Pollack, A. “Exceptional Siegel-Weil theorems for compact $Spin_8$ ”, *preprint*
<https://arxiv.org/abs/2308.09100>
5. Leslie, S. and Pollack, A. “Modular forms of half-integral weight on exceptional groups”, *Compositio Mathematica*, accepted
<https://arxiv.org/abs/2205.15391>
6. Cicek, F., Davidoff, G., Dijols, S., Hammonds, T., Pollack, A., and Roy, M. “The completed standard L -function of modular forms on G_2 ”, *Mathematische Zeitschrift*, 302 (2022), no. 1, 483-517
<https://arxiv.org/abs/2104.09448>
7. Pollack, A. “Exceptional groups and their modular forms”, *Notices of the American Mathematical Society*, (2021), Vol. 68, no. 2, 194-203
8. Pollack, A. “Modular forms on indefinite orthogonal groups of rank three”, with an appendix “Next to minimal representation” by Gordan Savin, *Journal of Number Theory*, 238 (2022) 611-675
<https://arxiv.org/abs/1910.06502>
9. Pollack, A. “A quaternionic Saito-Kurokawa lift and cusp forms on G_2 ”, *Algebra and Number Theory*, 15 (2021), no. 5, 1213-1244
<https://arxiv.org/abs/1904.10103>
10. Pollack, A., Wan, C., and Zydor, M. “On the residue method for period integrals”, *Duke Mathematics Journal*, 170 (2021), no. 7, 1457-1515
<https://arxiv.org/abs/1903.02544>
11. Pollack, A. “The minimal modular form on quaternionic E_8 ”, *Journal of the Institute of Mathematics of Jussieu*, published online, Aug 2020
<https://arxiv.org/abs/1810.04595>
12. Pollack, A. “Modular forms on G_2 and their standard L -function”, *Relative Trace Formulas*, edited by Werner Muller, Sug Woo Shin, Nicolas Templier, Springer Nature 2021, 379-427
<https://arxiv.org/abs/1807.03884>
13. Pollack, A., Wan, C. and Zydor, M. “A G_2 -period of Fourier coefficient of an Eisenstein series on E_6 ”, *Israel Journal of Mathematics*, (2019), 229-279
<https://arxiv.org/abs/1804.07227>
14. Pollack, A. “The Fourier expansion of modular forms on quaternionic exceptional groups”, *Duke Mathematics Journal*, Volume 169, Number 7 (2020), 1209-1280
<https://arxiv.org/abs/1804.06975>
15. Pollack, A. and Shah, S. “Multivariate Rankin-Selberg integrals on GL_4 and $GU(2,2)$ ”, *Canadian Mathematical Bulletin* Vol. 61 (4), 2018, 822-835
<https://arxiv.org/abs/1707.04658>

16. Pollack, A. and Shah, S. “A multivariate integral representation on $GL_2 \times GSp_4$ inspired by the pullback formula”, *Transactions of the American Mathematical Society*, 371 (2019), 5591-5630
<https://arxiv.org/abs/1707.02012>
17. Pollack, A. “Lifting laws and arithmetic invariant theory”, *Cambridge Journal of Mathematics* 6, No. 4 (2018) 347-449
<https://arxiv.org/abs/1609.08273>
18. Pollack, A. “Unramified Godement-Jacquet theory for the spin similitude group”, *Journal of the Ramanujan Mathematical Society* 33, No.3 (2018) 249-282
<https://arxiv.org/abs/1704.05897>
19. Pollack, A. “The Spin L -function on GSp_6 for Siegel modular forms”, *Compositio Mathematica* 153 (2017), no. 7, 1391 - 1432
<https://arxiv.org/abs/1506.03406>
20. Pollack, A. and Shah, S. “The Spin L -function on GSp_6 via a non-unique model”, *American Journal of Mathematics*, 140 (2018), no. 3, 753-788
<https://arxiv.org/abs/1503.08197>
21. Pollack, A. and Shah, S. “The Rankin-Selberg integral of Kohnen and Skoruppa”, *Mathematical Research Letters*, 24 (2017), no. 1, 173-222
<https://arxiv.org/abs/1410.7870>

TEACHING	Fall	2023	Instructor, UCSD, Math 299, Reading and Research
	Fall	2023	Instructor, UCSD, Math 204A, Algebraic number theory I
	Spring	2023	Instructor, UCSD, Math 299, Reading and Research
	Spring	2023	Instructor, UCSD, Math 100C, Abstract Algebra 3
	Winter	2023	Instructor, UCSD, Math 299, Reading and Research
	Winter	2023	Instructor, UCSD, Math 100B, Abstract Algebra 2
	Fall	2022	Instructor, UCSD, Math 299, Reading and Research
	Spring	2022	Instructor, UCSD, MATH 299, Reading and Research
	Winter	2022	Instructor, UCSD, MATH 105, Basic Number Theory
	Winter	2022	Instructor, UCSD, MATH 299, Reading and Research
	Winter	2022	Instructor, UCSD, MATH 199, Independent Study
	Fall	2021	Instructor, UCSD, MATH 204A, Algebraic Number Theory I
	Fall	2021	Instructor, UCSD, MATH 299, Reading and Research
	Fall	2021	Instructor, UCSD, MATH 199, Independent Study
	Spring	2021	Instructor, UCSD, MATH 103B, Modern Algebra II
	Spring	2021	Instructor, UCSD, MATH 299, Reading and Research
	Winter	2021	Instructor, UCSD, MATH 205, Topics in Number Theory
	Fall	2020	Instructor, UCSD, MATH 100A, Abstract Algebra
	Fall	2020	Instructor, UCSD, MATH 299, Reading and Research
	Spring	2020	Instructor, Duke University, MAT 222, Advanced Multivariable Calculus
	Fall	2020	Instructor, Duke University, MAT 305S, Number Theory Seminar
	Fall	2020	Instructor, Duke University, MAT 493, Independent study on Topics in Number Theory
	Spring	2019	Instructor, Duke University, MAT 690, Topics in Algebraic Number Theory
	Fall	2018	Instructor, Duke University, MAT 212, Multivariable Calculus
	Winter	2017	Instructor, Stanford University, MAT 199, Independent work on The Arithmetic of Elliptic Curves
	Autumn	2016	Instructor, Stanford University, MAT 19, Calculus I
	Autumn	2015	Instructor, Stanford University, MAT 19, Calculus I
	Spring	2014	Teaching Assistant, Princeton University, MAT 346, Algebra II
	Fall	2013	Teaching Assistant, Princeton University, MAT 419, Topics in Algebraic Number Theory
	Spring	2013	Teaching Assistant, Princeton University, MAT 346, Algebra II
	Fall	2012	Instructor, Princeton University, MAT 201, Multivariable Calculus
	Fall	2008	Instructor, Duke University, MAT 149S, Problem Solving Seminar
	Fall	2007	Instructor, Duke University, MAT 149S, Problem Solving Seminar
Spring	2007	Teaching Assistant, Duke University, MAT 151S, Advanced Problem Solving Seminar	
SERVICE	2023	Math Olympiad Program instructor	
	2022-present	Organizer of UCSD Number Theory seminar	
	2020-present	Co-organizer for POINT Contributed Talk series	
	2021	Talk at UCSD Math Competition Banquet	
	2019	SPIRE mentor	
	2018	Faculty advisor for <i>Duke Math Meet</i>	
	2017-2018	Co-organizer for Princeton/IAS Number theory seminar	
	2012-2013	Mentor for Princeton's <i>Mentoring Mobius</i> program	
2010-2011	Co-organizer for Princeton's <i>Graduate Student Seminar</i>		
2008	Organized <i>Duke Math Meet</i> (as President of the Duke University Math Union)		
STUDENTS ADVISED	2019-2020	Ben Nativi, Duke PRUV project and undergraduate thesis	
	2019-2020	Sam Pease, Duke PRUV project and undergraduate thesis	