

Kyle Pratt

CONTACT INFORMATION Department of Mathematics email: kpratt4@illinois.edu
University of Illinois at Urbana-Champaign url: <https://faculty.math.illinois.edu/~kpratt4/>
1409 W. Green St
Urbana, Illinois 61801

RESEARCH INTERESTS Prime numbers, sieve methods, exponential sums, L -functions

EDUCATION **University of Illinois at Urbana-Champaign**
Ph.D. Candidate, Mathematics (expected May 2019)
M.S., Mathematics, December 2017

Brigham Young University
B.S. in Mathematics, June 2014
• Magna Cum Laude

- PUBLICATIONS & PREPRINTS
11. *Breaking the $\frac{1}{2}$ -barrier for the twisted second moment of Dirichlet L -functions* (with H. M. Bui, N. Robles, and A. Zaharescu), submitted for publication.
 10. *Primes from sums of two squares and missing digits*, submitted for publication
 9. *Combinatorial applications of autocorrelation ratios* (with N. Robles, A. Zaharescu, and D. Zeindler), submitted for publication
 8. *Average non-vanishing of Dirichlet L -functions at the central point*, to appear in Algebra and Number Theory
 7. *Perturbed moments and a longer mollifier for critical zeros of ζ* (with N. Robles), Res. Number Theory 4 (2018), no. 1, 4:9
 6. *A lower bound for the least prime in an arithmetic progression* (with J. Li and G. Shakan), Q. J. Math. **68** (2017), no. 3, 729-758
 5. *A generalization of the Schur-Siegel-Smyth trace problem* (with G. Shakan and A. Zaharescu), J. Math. Anal. Appl. **436** (2016), no. 1, 489-500
 4. *Coefficient bounds for level 2 cusp forms* (with P. Jenkins), Acta Arithmetica **168** (2015), no. 4, 341-367
 3. *Zeros of Dirichlet L -functions over function fields* (with J. Andrade, S. J. Miller, and M. Trinh), Communications in Number Theory and Physics **8** (2014), no. 3, 511-539
 2. *Special sets of primes in function fields* (with J. Andrade, S. J. Miller, and M. Trinh), INTEGERS **14** (2014), #A18
 1. *Interlacing of zeros of weakly holomorphic modular forms* (with P. Jenkins), Proceedings of the American Mathematical Society, Series B **1** (2014), 63-77

CONFERENCE
AND SEMINAR
TALKS

Breaking the $\frac{1}{2}$ -barrier for the twisted second moment of Dirichlet L-functions, University of Illinois at Urbana-Champaign, Number Theory Seminar. September 13, 2018.

Primes from sums of two squares and missing digits, ICOMAS 2018, University of Memphis. May 9, 2018. (invited talk)

Average non-vanishing of Dirichlet L-functions at the central point, University of Illinois at Urbana-Champaign, Number Theory Seminar. May 1, 2018.

Critical zeros of the Riemann zeta-function, 32nd Automorphic Forms Workshop, Tufts University. March 21, 2017.

A lower bound for the least prime in an arithmetic progression, Palmetto Number Theory Series XXIX, Clemson University. December 2, 2017.

A lower bound for the least prime in an arithmetic progression, Maine-Québec Number Theory Conference, University of Maine. October 15, 2017.

Primes from sums of two squares and missing digits, University of Illinois at Urbana-Champaign, Number Theory Seminar. October 5, 2017.

A lower bound for the least prime in an arithmetic progression, Brigham Young University, Number Theory seminar. March 28, 2017.

Coefficient bounds for level 2 cusp forms, 29th Automorphic Forms Workshop, Ann Arbor, MI. (March 2015).

Interlacing of zeros of weakly holomorphic modular forms, Midwest Number Theory Conference for Graduate Students and Recent PhDs, Urbana, IL. (June 2014)

Zeros of Dirichlet L-functions over function fields (with Minh-Tamh Trinh), 2013 Maine-Quebec Number Theory Conference, University of Maine. (October 2013)

Interlacing of zeros of weakly holomorphic modular forms, 27th Automorphic Forms Workshop, University College Dublin. (March 2013)

WORKSHOPS AND
SCHOOLS
ATTENDED

L-functions: Open Problems and Current Methods, Hausdorff Center for Mathematics, Bonn, Germany. June 2018

Probability in Number Theory, CRM, Université de Montréal. May 2018

Recent developments in analytic number theory, MSRI, UC Berkeley. May 2017

TEACHING
EXPERIENCE

Fall	2017	Teaching Assistant, Math 220 (Calculus I) University of Illinois at Urbana-Champaign
Spring	2017	Teaching Assistant, Math 231 (Calculus II) University of Illinois at Urbana-Champaign
Fall	2016	Teaching Assistant, Math 220 (Calculus I) University of Illinois at Urbana-Champaign
Spring	2014	Teaching Assistant, Calculus Brigham Young University

TEACHING
HONORS

List of teachers ranked as excellent by their students: Fall 2017, Spring 2017, Fall 2016

AWARDS AND HONORS	2018	Bateman Prize for outstanding research in number theory	
	2014–2019	National Science Foundation Graduate Research Fellow	
	Nov 2015	BYU CPMS news story: Math and Mentoring	
	2014	ORCA Grant, Brigham Young University	
PROFESSIONAL SERVICE	Referee Work		
		<ul style="list-style-type: none"> • Journal of Mathematical Analysis and Applications • International Journal of Number Theory • Journal of Number Theory 	
	MathSciNet reviewer		
OUTREACH AND OTHER ACTIVITIES	Fall	2018	Organizer, Graduate Student Number Theory Seminar
	July	2018	Speaker, Summer Illinois Math Camp Delta (10-12th graders)
	November	2015	Volunteer, Sonia Math Day for Girls
	August	2015	Volunteer, Summer Illinois Math Camp (high school students)
	Spring	2015	Volunteer and Tour Guide, Cook County S. D. 104 campus visit (8th graders)