Lola Thompson

BASIC INFORMATION:

Citizenship: United States

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Languages: English, Spanish

APPOINTMENTS HELD:

Max-Planck-Institut für Mathematik
Guest/Research Visitor — September 2019 - June 2020

Oberlin College
Associate Professor — July 2019 - present
Assistant Professor — July 2013 - June 2019

Max-Planck-Institut für Mathematik
Guest/Research Visitor — September 2019 - May 2020

Mathematical Sciences Research Institute
Research Member — January 2017 - May 2017

The University of Georgia
VIGRE Postdoctoral Fellow — August 2012 - July 2013
Research Mentor: Paul Pollack

EDUCATION:

Ph.D. in Mathematics, Dartmouth College — June 2012
Adviser: Carl Pomerance
Thesis: *Products of distinct cyclotomic polynomials*

M.A. in Mathematics, Dartmouth College — June 2009

B.S. in Mathematics, University of Chicago — June 2007

B.A. in Economics, University of Chicago — June 2007

RESEARCH PUBLICATIONS:

21. **Counting Salem numbers of arithmetic hyperbolic 3-orbifolds.**
Submitted for publication.
Joint with Mikhail Belolipetsky, Matilde Lalín, and Plinio G. P. Murillo.

20. **The Fourier coefficients of Eisenstein series newforms.**
Contemporary Mathematics, **732** (2019), 169 – 176.
Joint with Benjamin Linowitz.

19. **Counting and effective rigidity in algebra and geometry.**
Inventiones Mathematicae, **213**, no. 2 (2018), 697 – 758.
Joint with Benjamin Linowitz, D. B. McReynolds, Paul Pollack.

18. **Divisor-sum fibers.**
Mathematika, **64**, no. 2 (2018), 330–342.
Joint with Paul Pollack and Carl Pomerance.

17. **Lower bounds for heights in relative Galois extensions.**
Contributions to Number Theory and Arithmetic Geometry, Springer AWMS **11** (2018), 1–17.
Joint with Kevser Aktaş, Shabnam Akhtari, Kirsti Biggs, Alia Hamieh, and Kathleen Petersen.

16. **A generalization of the practical numbers.**
International Journal of Number Theory, **14**, no. 5 (2018), 1487–1503.
Joint with Nicholas Schwab.

15. **Systoles of arithmetic hyperbolic surfaces and 3-manifolds.**
Mathematical Research Letters, **24**, no. 5 (2017), p. 1497 – 1522.
Joint with Benjamin Linowitz, D. B. McReynolds, Paul Pollack.

14. **Bounded gaps between primes and the length spectra of arithmetic hyperbolic 3-orbifolds**.
Comptes Rendus Mathematique, **355**, no. 11 (2017), p. 1121–1126.
Joint with Benjamin Linowitz, D. B. McReynolds, and Paul Pollack.

13. **On integers n for which $x^n - 1$ has a divisor of every degree.**
Acta Arithmetica **175**, no. 3 (2016), p. 225-244.
Joint with Carl Pomerance and Andreas Weingartner.

12. **Arithmetic functions at consecutive shifted primes.**
International Journal of Number Theory **11**, no. 5 (2015), p. 1477-1498.
Joint with Paul Pollack.

11. **Bounded gaps between primes in number fields and function fields.**
Proceedings of the American Mathematical Society **143** (2015), p. 2841-2856.
Joint with Abel Castillo, Chris Hall, Robert Lemke Oliver, and Paul Pollack.

10. **The sign changes of Fourier coefficients of Eisenstein series.**
The Ramanujan Journal **37**, no. 2 (2015), p. 223-241.
Joint with Benjamin Linowitz.

9. **Abelian surfaces with prescribed groups.**
Bulletin of the London Mathematical Society **46** (2014), p. 779-792.
Joint with Chantal David, Derek Garton, Zachary Scherr, Arul Shankar, and Ethan Smith.

8. **Variations on a question concerning the degrees of divisors of $x^n - 1$.**
Journal de Théorie des Nombres Bordeaux. **26**, no. 1 (2014), p. 253-267.

7. **Variations on a theorem of Davenport concerning abundant numbers.**
Bulletin of the Australian Mathematical Society **89**, no. 3 (2014), p. 437-450.
Joint with Emily Jennings and Paul Pollack.

6. **Distribution of squarefree values of sequences associated with elliptic curves.**
Contemporary Mathematics **606**, Amer. Math. Soc. (2013), p. 171-188.
Joint with Shabnam Akhtari, Chantal David, and Heekyoung Hahn.

5. **Practical pretenders.**
Publicationes Mathematicae Debrecen **82** (2013), p. 651-667.
Joint with Paul Pollack.

4. **On the degrees of divisors of $T^n - 1$.**
New York Journal of Mathematics **19** (2013), p. 91-116.
Joint with Paul Pollack.

3. **On the divisors of $x^n - 1$ in $\mathbb{F}_p[x]$.**
International Journal of Number Theory **9**, no. 2 (2013), p. 421-430.

2. **Polynomials with divisors of every degree.**
Journal of Number Theory **132** (2012), p. 1038-1053.

1. **Heights of divisors of $x^n - 1$.**
Integers **11A.** Proceedings of the Integers Conference 2009 (2011). Article 20, p. 1-9.

0. **Products of distinct cyclotomic polynomials.**
Ph.D. thesis, Dartmouth College (2012).

EXPOSITORY PAPERS, SURVEY ARTICLES, OTHER MATHEMATICAL WRITING:

4. Lola Thompson, **Counting and effective rigidity in algebra and geometry**.
Mathematisches Forschungsinstitut Oberwolfach. Report No. 50/2019, pp. 55–58.
DOI: 10.4171/OWR/2019/50.

3. Lola Thompson, **Nowhere to go but up**.
Living Proof: Stories of Resilience Along the Mathematical Journey. Edited by A. Henrich, E. Lawrence, M. Pons, and D. Taylor. Jointly published by the American Mathematical Society and the Mathematical Association of America, 2019, pp. 21–23.

2. Lola Thompson, **An Euler φ-for-all**.
Girls' Angle Bulletin, June 2013.

1. Lola Thompson, **On the divisors of $x^n - 1$**.
Electron. Notes Discrete Math. **43** (2013), 141–149.

PERSONAL GRANTS/FELLOWSHIPS/AWARDS:

Max Planck Institute for Mathematics Research Fellowship, 2018.
Awarded €25,200 to support my research during the 2019-2020 academic year.

Oberlin College Curriculum Development Grant, 2018.
Awarded $3500 to develop a new course on mathematics and the arts.

AMS ICM Travel Grant, 2018.
Awarded $3300 for travel to the International Congress of Mathematicians in Rio de Janeiro in August 2018.

Mathematical Sciences Research Institute Fellowship, 2017.
Awarded $7,000 to support research during my sabbatical.

Max Planck Institute for Mathematics Research Fellowship, 2016.
Awarded €11,500 to support research during my sabbatical.

AMS Simons Travel Grant, 2014 - 2017.
Awarded $4,000 by the American Mathematical Society and the Simons Foundation.

AWM-NSF Travel Grant, 2014.
Awarded $1,670 for travel to the Hausdorff Center for Mathematics in July 2014.

MAA Project NExT Leitzel Fellowship, 2013 - 2014.

MRC Collaboration Grant, sponsored by AMS / NSF, 2012 - 2013.

NSF VIGRE Postdoctoral Fellowship, The University of Georgia, August 2012 - July 2013.

CONFERENCE GRANTS:

Banff International Research Station-Casa Matematica Oaxaca.
Awarded funding to cover lodging, food, and research facilities for a 42-person workshop that will take place at the BIRS-CMO facility in Oaxaca, Mexico (August 11-16, 2019).
Co-PIs: Harald Helfgott, Moubariz Garaev.

MSRI Summer Research for Women In Mathematics.
Awarded $10,000 for a collaboration workshop on Height Functions and Lehmer-type Problems (July 22 - August 2, 2019).
Co-PIs: Kevser Aktaş, Shabnam Akhtari, Kirsti Biggs, Alia Hamieh, and Kathleen Petersen.

Heilbronn Institute Focused Research Group.
Awarded £7,500 for a workshop on Height Functions and Lehmer-type Problems (October 22-26, 2018).
Co-PIs: Kevser Aktaş, Shabnam Akhtari, Kirsti Biggs, Alia Hamieh, and Kathleen Petersen.

Number Theory Foundation Grant.
Awarded $5,805.20 for the Carl Pomerance 70th Birthday Conference in Athens, GA (June 8-11, 2015).
Co-PIs: Paul Pollack, Robert Rumely, Gang Yu.

NSF Grant DMS1502336.
Awarded $20,576 for the Carl Pomerance 70th Birthday Conference in Athens, GA (June 8-11, 2015).
Co-PIs: Paul Pollack, Robert Rumely, Gang Yu.

NSF Grant DMS1500710.
Awarded $19,220 for the 29th Automorphic Forms Workshop in Ann Arbor, MI (March 2-5, 2015).
Co-PIs: Mahesh Agarwal, Benjamin Linowitz.

Number Theory Foundation Grant.
Awarded $4,920 for the 29th Automorphic Forms Workshop in Ann Arbor, MI (March 2-5, 2015).
Co-PIs: Mahesh Agarwal, Benjamin Linowitz.

NSA Grant #131015.
Awarded $15,788 for the Carl Pomerance 70th Birthday Conference in Athens, GA (June 8-11, 2015).
Co-PIs: Paul Pollack, Robert Rumely, Gang Yu.

Beatrice Yormark Fund For Women In Mathematics.
Awarded $5,000 for the Women In Sage 5 workshop in Portland, OR (July 28-August 1, 2014).
Co-PI: Anna Haensch.

Microsoft Research.
Awarded $5,000 for the Women In Sage 5 workshop in Portland, OR (July 28-August 1, 2014).
Co-PI: Anna Haensch.

CONFERENCES AND SEMINARS ORGANIZED:

BIRS-CMO Workshop on *Number Theory In the Americas*
Co-organizer (with Moubariz Garaev and Harald Helfgott).
Oaxaca, Mexico, August 2019.

AMS Special Session on *A Showcase of Number Theory at Undergraduate Institutions*
Co-organizer (with Adriana Salerno).
Joint Mathematics Meetings, Baltimore, January 2019.

AMS Special Session on *A Showcase of Number Theory at Liberal Arts Colleges*
Co-organizer (with Adriana Salerno).
Joint Mathematics Meetings, San Diego, January 2018.

Carl Pomerance 70th Birthday Conference
Co-organizer (with Paul Pollack, Robert Rumeley and Gang Yu).
University of Georgia, June 2015.

Automorphic Forms Workshop
Co-organizer (with Benjamin Linowitz and Mahesh Agarwal).
University of Michigan, March 2015.

Cleveland Area Number Theory Seminar
Founder and Co-organizer (with Gang Yu).

Sage Days 62: Women in Sage 5
Co-organizer (with Anna Haensch).
Portland, OR, July 2014.

Panel Discussion on *Tried and true practices for IBL and active learning*
Panel Moderator and *Co-organizer* (with Susan Crook, William Lindsey and Taylor Martin).
Project NExT, AMS/MAA Joint Mathematics Meetings (2014).

Sage Days 42: Women in Sage 3
Co-organizer (with Jennifer Balakrishnan and Alyson Deines).
University of Washington, July 2012.

Dartmouth College Number Theory Seminar
Organizer, September 2008 - June 2010.

RESEARCH WORKSHOPS ATTENDED:

Workshop on Analytic Number Theory
Mathematisches Forschungsinstitut Oberwolfach (Oberwolfach, Germany), November 3 - 9, 2019.

Sarnak's Conjecture
American Institute of Mathematics, December 10 - 14, 2018.

Aritmética, Grupos y Analisis III
Academia Nacional de Ciencias (Cordoba, Argentina), July 9-20, 2018.

MSRI Recent Developments in Analytic Number Theory
Mathematical Sciences Research Institute, May 2017.

Workshop on Efficient Congruencing and Translation-invariant Systems
Fields Institute (Toronto, ON, Canada), March 2017.

MSRI Introductory Workshop: Analytic Number Theory
Mathematical Sciences Research Institute, February 2017.

MSRI Connections for Women: Analytic Number Theory
Mathematical Sciences Research Institute, February 2017.

Women in Numbers Europe 2
Lorentz Center (Leiden, Netherlands), September 2016.

re:boot Number Theory 2016
Duke University, March 2016.

Bounded gaps between primes
American Institute of Mathematics, November 2014.

Sage Days 62: Women in Sage 5
Co-organizer (with Anna Haensch), Portland, OR, July 2014.

ELEFANT: Emerging Leaders and Evolving Frontiers in Analytic Number Theory & ENFANT: Exciting New Faces in Analytic Number Theory
Hausdorff Center for Mathematics (Bonn, Germany), July 2014.

Workshop on Polynomials Over Finite Fields
Centre de Recerca Matematica (Barcelona, Spain), May 2014.

Arithmetic Statistics Over Finite Fields and Function Fields
American Institute of Mathematics, January 2014.

AWM Workshop, Joint Mathematics Meetings, January 2013.
One of six recent Ph.D. recipients funded to present a talk at the annual AWM Workshop.

Sage Days 42: Women in Sage 3
Co-organizer (with Jennifer Balakrishnan and Alyson Deines),
University of Washington, July 2012.

Arithmetic Statistics
AMS Mathematics Research Communities, June 2012.

Women In Numbers 2
Banff International Research Station (Banff, Canada), November 2011.

Sage Days 33: Women in Sage 2
University of Washington, September 2011.

AMS MRC Workshop on The Pretentious View of Analytic Number Theory
AMS Mathematics Research Communities, June 2011.

MSRI Introductory Workshop: Arithmetic Statistics
Mathematical Sciences Research Institute, February 2011.

MSRI Connections for Women: Arithmetic Statistics
Mathematical Sciences Research Institute, January 2011.

Sage Days 26: Women in Sage
Microsoft Research & University of Washington, December 2010.

MSRI Graduate Workshop – Sage Days 22: Elliptic Curves
MSRI Graduate Workshop, June 2010.

PLENARY TALKS AND INVITED LECTURE SERIES:

Workshop on advances in the geometry and isospectrality of locally symmetric spaces
Korean Institute of Advanced Study (Seoul, South Korea), April 15 - 19, 2019.
Series of invited lectures (3 hours).
Talk titles: "Counting techniques in number theory, with applications to spectral geometry" and "Counting and effective rigidity in algebra and geometry."

MAA Ohio Section Meeting
Sinclair College (Dayton, OH), March 31 - April 1, 2017.
Series of 2 plenary lectures.
Talk titles: "Twin primes and their kin" and "Bounded gaps between primes."

Southeastern Conference For Undergraduate Women In Mathematics
Clemson University (Clemson, SC), November 16, 2014.
Plenary talk.
Talk title: "Twin primes and their kin."

RESEARCH TALKS:

Summing $\mu(n)$: a faster elementary algorithm
AMS/MAA Joint Meetings — January 18, 2020.

Bounded gaps between primes and volumes of manifolds
Max Planck Institute for Mathematics (Bonn, Germany) — December 5, 2019.

Counting quaternion algebras with applications to spectral geometry
N-cube days XI (Göteborg, Sweden) — November 15, 2019.

Counting and effective rigidity in algebra and geometry
Mathematisches Forschungsinstitut Oberwolfach (Oberwolfach, Germany) — November 7, 2019.

Counting quaternion algebras with applications to spectral geometry
Seminar ABKLS (Köln, Germany) — September 11, 2019.

Sumas de divisores (delivered in Spanish)
XXIII Coloquio Latinamericano de Álgebra (Mexico City, Mexico) — August 9, 2019.

Bounded gaps between primes and volumes of manifolds
Invited Talk, Utrecht University (Utrecht, Netherlands) — April 10, 2019.

The Fourier coefficients of Eisenstein series newforms
33rd Automorphic Forms Workshop, Duquesne University — March 8, 2019.

Counting quaternion algebras with applications to spectral geometry
Number Theory Seminar, The Ohio State University — January 28, 2019.

Counting quaternion algebras
AMS/MAA Joint Meetings, — January 18, 2019.
AMS Invited Paper Session on Counting Methods in Number Theory.

Gaps between primes and the length spectra of arithmetic hyperbolic surfaces
AMS/MAA Joint Meetings, — January 17, 2019.
AMS Special Session on Number Theory and Hyperbolic Geometry.

Counting quaternion algebras
Canadian Mathematical Society Winter Meeting, — December 9, 2018.
CMS Special Session on Distributions in Analytic Number Theory.
Geometric and Analytic Number Theory (Goettingen, Germany) — November 22, 2018.
Max Planck Institute for Mathematics Number Theory Lunch Seminar — June 27, 2018.
International Conference On Mathematics and Statistics (Memphis, TN) — May 8, 2018.

Bounded gaps between primes and the length spectra of arithmetic hyperbolic 2-orbifolds
Heilbronn Number Theory Seminar (Bristol, UK) — October 24, 2018.

Sumas de divisores (delivered in Spanish)
Instituto de Matemática y Ciencias Afines (Lima, Peru) — August 17, 2018.

Counting and effective rigidity in algebra and geometry
University of Goettingen Number Theory Seminar — June 13, 2018.
University of Wisconsin – Madison Number Theory Seminar — April 5, 2018.

Espacios entre primos (delivered in Spanish)
Universidad Mayor de San Andrés (La Paz, Bolivia) — July 30, 2018.
Universidad de La Habana (Havana, Cuba) — January 4, 2018.
Instituto de Matemática y Ciencias Afines (Lima, Peru) — August 21, 2017.

Divisor-sum fibers

Elementare und Analytische Zahlentheorie (ELAZ), Bonn, Germany	September 4, 2018.
Combinatorial and Additive Number Theory (CANT), New York, NY	May 24, 2018.
University of South Carolina	April 13, 2018.
Mid-Atlantic Seminar On Numbers II	April 7, 2018.
Number Theory Week 2017 (Poznan, Poland)	September 4, 2017.
Vilnius Conference in Combinatorics and Number Theory (Vilnius, Lithuania)	July 17, 2017.

Bounded gaps between primes and the length spectra of arithmetic hyperbolic 3-orbifolds

University of Georgia Number Theory Seminar	January 24, 2018.
Mathematical Congress of the Americas (Montréal, QC, Canada)	July 27, 2017.
Georg-August-Universität zu Göttingen Number Theory Seminar	July 10, 2017.
Max Planck Institute Number Theory Seminar (Bonn, Germany).	July 5, 2017.

(Mind the) gaps between primes

University of Georgia Graduate Student Seminar.	January 23, 2018.
Ross Mathematics Program 60th Reunion and Conference.	June 17, 2017.

Sums of distinct divisors

MSRI Connections for Women: Analytic Number Theory	February 3, 2017.

Counting quaternion algebras

AMS/MAA Joint Meetings,	January 5, 2017.
AMS Special Session on Discrete Structures in Number Theory.	

Polynomials with divisors of every degree

Max Planck Institute Number Theory Seminar (Bonn, Germany).	December 19, 2016.

Prime gaps

Universität zu Köln Oberseminar Zahlentheorie (Cologne, Germany).	December 12, 2016.

Runs of consecutive primes

Heilbronn Number Theory Seminar (Bristol, UK).	October 12, 2016.
Max Planck Institute Number Theory Seminar (Bonn, Germany).	August 10, 2016.

Heights of algebraic integers

Women In Numbers Europe 2 Conference (Leiden, Netherlands).	September 30, 2016.

The sign changes of Fourier coefficients of Eisenstein series.

Building Bridges Workshop (Sarajevo, Bosnia and Herzegovina).	July 18, 2016.

On integers n for which $x^n - 1$ has a divisor of every degree

Canadian Number Theory Association Meeting (Calgary, AB, Canada).	June 23, 2016.

Bounded gaps between primes

University of Oregon Number Theory Seminar.	May 17, 2016.
Central Michigan University Mathematics Department Colloquium.	December 17, 2015.
Dartmouth College Mathematics Department Colloquium.	May 21, 2015.
Kent State University Mathematics Department Colloquium.	April 16, 2015.
North Dakota State University Mathematics Department Colloquium.	March 24, 2015.

Polynomials with divisors of every degree

Duke University Number Theory Seminar.	November 4, 2015.

Runs of consecutive primes via the Maynard-Tao method

AMS Special Session on Analytic Methods in Elementary Number Theory.	
AMS Sectional Meeting (Huntsville, AL),	March 28, 2015.

Arithmetic functions at consecutive shifted primes.

American Institute of Mathematics.	November 20, 2014.

Applications of the Maynard-Tao method.

AMS Special Session on Interactions between Geometry, Group Theory, and Number Theory.	
AMS Sectional Meeting (East Lansing, MI),	March 15, 2015.
Clemson University Number Theory Seminar.	November 14, 2014.
Exciting New Faces In Analytic Number Theory (Bonn, Germany).	July 12, 2014.

Abelian surfaces over finite fields with prescribed groups.

AMS/MAA Joint Meetings,	January 16, 2014.
AMS Special Session on Analytic Number Theory.	
AMS Sectional Meeting (Riverside, CA),	November 2, 2013.
Special Session on Heights, Diophantine problems, and lattices.	

Sums of multiplicative arithmetic functions over abundant numbers.

Integers Conference.	October 27, 2013.
Palmetto Number Theory Series XX.	September 8, 2013.

Statistical questions about arithmetic objects

University of Georgia Number Theory Seminar.	April 10, 2013.
University of South Carolina Number Theory Seminar.	April 5, 2013.

The sign changes of Fourier coefficients of Eisenstein series.

27th Automorphic Forms Workshop (Dublin, Ireland).	March 12, 2013.
AMS Sectional Meeting (Oxford, MS),	March 2, 2013.
Special Session on Modern Methods in Analytic Number Theory.	

How often is $\#E(\mathbb{F}_p)$ squarefree?

SouthEastern Regional Meeting On Numbers.	April 13, 2013.
AMS/MAA Joint Meetings,	January 12, 2013.
AWM Workshop on Number Theory.	

On the degrees of divisors of $x^n - 1$.

Max Planck Institute Number Theory Seminar (Bonn, Germany).	June 26, 2013.
Emory University Algebra and Number Theory Seminar.	February 6, 2013.
University of Michigan Group, Lie and Number Theory Seminar.	October 29, 2012.
University of South Carolina Number Theory Seminar.	October 23, 2012.
Québec-Maine Number Theory Conference.	September 29, 2012.
AMS Sectional Meeting (Rochester, NY),	September 23, 2012.
Special Session on Analytic Number Theory	

Sums of distinct divisors.

West Coast Number Theory Conference.	December 17, 2012.
Palmetto Number Theory Series XIX.	December 1, 2012.
Canadian Number Theory Association Conference XII.	June 17, 2012.

Products of distinct cyclotomic polynomials.

University of Georgia AGANT Oberseminar.	September 5, 2012.
University of Washington Number Theory Seminar.	May 3, 2012.
PIMS/SFU/UBC Number Theory Seminar.	April 26, 2012.
CRM Analytic Number Theory Seminar.	April 5, 2012.
Brigham Young University Number Theory Seminar.	February 28, 2012.
West Coast Number Theory Conference.	December 16, 2011.
Brown University Number Theory Seminar.	December 2, 2011.

On the divisors of $x^n - 1$.

Erdős Centennial Conference (Budapest, Hungary). (poster)	July 2, 2013.
AMS/MAA Joint Meetings,	January 5, 2012.
Special Session on New Perspectives in Multiplicative Number Theory	

Polynomials with divisors of every degree.

Integers Conference.	October 27, 2011.
AWM Celebration of Women In Math. (poster)	September 18, 2011.

On the divisors of $x^n - 1$ in $\mathbb{F}_p[x]$.

Maine-Québec Number Theory Conference.	October 2, 2011.

Variations on the practical numbers.

Upstate Number Theory Conference.	April 30, 2011.

Artin's primitive root conjecture.

MIT Seminar on Topics in Arithmetic, Geometry, Etc.	December 3, 2010.

φ-practical numbers.

Québec-Maine Number Theory Conference.	October 3, 2010.
Canadian Number Theory Association Conference XI.	July 13, 2010.

Heights of divisors of $x^n - 1$.

Integers Conference.	October 17, 2009.
Maine-Québec Number Theory Conference.	October 4, 2009.

GRADUATE-LEVEL TALKS:

The ping-pong lemma
November 22, 2019. Reading group on Geometric Group Theory, Max Planck Institute for Mathematics.

What are modular forms?
March 6, 2019. AFW Graduate Student Bootcamp, Duquesne University.

(Mind the) gaps between primes
January 23, 2018. Graduate Student Seminar, University of Georgia.

UNDERGRADUATE-LEVEL TALKS:

Reflections on the 2018 ICM
October 2018, Oberlin College. Joint with Benjamin Linowitz.

(Mind the) gaps between primes
August 2017, WADE REU, Wake Forest University.

Twin primes and their kin
March 2018, Colloquium, Lake Forest College.
March 2018, Colloquium, Elon University.
April 2017, Pi Mu Epsilon Induction Ceremony at Chico State University.
June 2016, Complexity Across Disciplines REU, Boise State University.
February 2016, AWM Lecture, University of Akron.
October 2015, Colloquium, Butler University.
April 2014, Colloquium, Kenyon College.
March 2014, Colloquium, Oberlin College.
March 2014, Undergraduate Colloquium, University of Georgia.

Are there infinitely many pairs of twin primes?
November 2014, Math Club Lecture, Clemson University.

On the divisors of $x^n - 1$
June 2013, Clemson University REU.

Curious patterns in the divisors of $x^n - 1$
January 2012, Colloquium, Oberlin College.
January 2012, Colloquium, Ursinus College.
January 2012, Colloquium, Whittier College.
November 2011, Colloquium, Goucher College.

Coefficients of Cyclotomic Polynomials
November 2009, Dartmouth Math Society.

Heights of Divisors of $x^n - 1$
September 2009, Women In Math In New England.

TALKS FOR HIGH SCHOOL STUDENTS:

Degrees of divisors of $x^n - 1$
September 2016, Max Planck Institute for Mathematics Summer Intern Program.

Twin primes and their kin
July 2014, Ross Mathematics Program.

The Mathematics of SET
June 2013, UGA Math Camp.

Number Theory and Security in the Digital Age
July 2010, Ross Mathematics Program.

Bertrand's Postulate
July 2009, Ross Mathematics Program.

COURSES TAUGHT:

Assistant Professor, Oberlin College

FYSP 008: Form and Formula: the Interplay Between Mathematics and the Arts, Fall 2018.
MATH 133: Calculus I, Fall 2013, Spring 2015, Fall 2017.
MATH 134: Calculus II, Fall 2014 (two sections), Fall 2015, Spring 2018 (two sections).
MATH 220: Discrete Mathematics, Fall 2015, Spring 2016, Spring 2019 (two sections).
MATH 232: Linear Algebra, Fall 2013, Spring 2014, Fall 2014.
MATH 317: Number Theory, Spring 2014, Spring 2016, Spring 2018, Fall 2018.
MATH 327: Group Theory, Spring 2015.
MATH 329: Rings and Fields, Fall 2017.

Instructor, The University of Georgia

MATH 2250: Calculus for Science and Engineering I, Fall 2012, Spring 2013.

Instructor, Dartmouth College

MATH 1: Calculus with Algebra, Fall 2009.
MATH 8: Calculus of One and Several Variables, Spring 2012.
MATH 20: Discrete Probability, Fall 2010.
UNSG 100: Graduate Ethics, Fall 2010.

RESEARCH STUDENTS SUPERVISED:

Ivan Aidun, Honors Thesis Student, Oberlin College '19
Project Title: "A statistical investigation of a divisor-sum function"

Nicholas Schwab, Max Planck Institute Summer Intern, University of Bonn '19
Project Title: "A generalization of the practical numbers"

Leo Gitin, Max Planck Institute Summer Intern, University of Bonn '19
Project Title: "Prime numbers and their 'practical' cousins"

Hannah Pieper, Winter Term Student, Oberlin College '18
Project Title: "Nim sums and combinatorial games"

Jad Salem, Winter Term Student, Oberlin College '17
Project Title: "Topics in module theory"

Jules Metcalf-Burton, Winter Term Student, Oberlin College '15
Project Title: "Problems in analytic number theory"

TALKS ON MATH PEDAGOGY:

"I did it my way": making undergraduate research work for you
January 2020, Joint Mathematics Meetings, AMS-MAA Special Session on Getting Started in Undergraduate Research: Topics, Tools, and Open Problems.

#quadraticreciprocity: from 140-character tweets to polished student-authored textbooks
January 2018, Joint Mathematics Meetings, MAA Session on Innovative Teaching Practices in Number Theory.

IBL number theory (for large values of n)
January 2015, Joint Mathematics Meetings, MAA/NSF Funded Poster Session (poster).
June 2014, Legacy of R. L. Moore Conference.

Using WeBWorK
November 2013, Math Faculty Seminar, Oberlin College.

Flipping the classroom (without turning your life upside down)
October 2013, Ohio Project NExT, MAA Ohio Sectional Meeting.

PEDAGOGY WORKSHOPS:

Approaches to Student Mentoring, October 2018.
Oberlin College
Participated in a two-hour workshop on best practices for serving as an effective research mentor to undergraduate students.

Career Development in the Academic Department, October 2018.
Oberlin College
Participated in a one-hour workshop on steps that academic departments can take to help their students prepare for life outside of academia.

Music$^+$ Workshop, January 2018.
Oberlin College
Participated in a one day workshop on incorporating music in liberal arts college courses.

"Beautiful Problems": Designing (and Scaffolding) Writing Assignments to Promote Disciplinary Ways of Thinking and Arguing, January 2016.
Oberlin College
Participated in a two day workshop led by John Bean on designing writing assignments to promote disciplinary ways of thinking.

MAA PREP Workshop on Inquiry-Based Learning, June 2014.
Kenyon College
Partially funded by the NSF to attend a week-long workshop in which participants design a course for the 2014-2015 academic year that will incorporate inquiry-based learning methods.

Sharing Responsibility for Classroom Environments and Learning, February 2014.
Oberlin Center for Teaching Innovation and Excellence
Participated in a three-hour workshop led by Allison Cook-Sather on creating faculty-student partnerships to strengthen teaching and learning in higher education.

IBL Workshop, October 2013.
MAA Ohio Section Meeting, Cleveland State University
Participated in a two-hour introductory workshop led by Carol Schumacher on using inquiry-based learning methods.

Project NExT, August 2013 - August 2014
Hartford, CT; Baltimore, MD; Portland, OR
Participated in Project NExT, a professional development for new or recent Ph.D.s in the mathematical sciences. Project NExT addresses all aspects of an academic career: improving the teaching and learning of mathematics, engaging in research and scholarship, and participating in professional activities.

Legacy of R. L. Moore – IBL Conference, June 2013 & June 2014.
University of Texas at Austin
Funded by the Educational Advancement Foundation to attend a three-day workshop on developing and implementing inquiry-based learning techniques.

Active Learning Institute
Dartmouth Center for the Advancement of Learning, August 2011.
Selected from teaching faculty across disciplines at Dartmouth College to participate in an intensive two-day workshop on creating learner-centered educational experiences in the classroom.

Course Development Series
Dartmouth Center for the Advancement of Learning, June 2011.
Took part in a four session workshop designed to support instructors in creating new courses or revising existing courses.

Mentoring Workshop
Dartmouth Center for the Advancement of Learning, January 2010.
Participated in a four session workshop focused on developing the skills necessary to serve as a research mentor to undergraduate and graduate students.

Teaching Seminar
Dartmouth College, Summer 2009.
Participated in an intensive summer-long training course taken by Dartmouth's post-qualifying exam graduate students. The course included reading and discussion of material on the philosophy and science of learning and teaching. Participants also designed and executed two week-long mathematics workshops for high school students and guest-lectured for two class periods in a Dartmouth course (in my case, *Math 31: Abstract Algebra*).

OUTREACH ACTIVITIES:

Mathematical Consultant

Stardrop Circus, Ongoing.

Serving as mathematical consultant to the Stardrop Circus, a Cleveland-based aerial acrobatics group. Helping circus performers develop a mathematically-correct aerial acrobatics demonstration on principles from physics aimed at middle school students.

Research Mentor

Max Planck Institute for Mathematics Summer Intern Program, September 2016.

Mentored two high school students on mathematics research projects during a month-long internship program.

Invited Faculty Panelist

Nebraska Conference for Undergraduate Women in Math, January 2015.

Provided mentorship to undergraduates interested in pursuing careers in mathematics. Spoke in a panel on "Random bits of advice" and facilitated breakout sessions on "Research in Mathematics" and "Various Teaching Opportunities."

Invited Faculty Mentor

Southeastern Conference for Undergraduate Women in Math, November 2014.

Provided mentorship to undergraduate women from the Southeastern region of the United States interested in pursuing careers in mathematics. Participated in roundtable discussions and gave a plenary talk on my own research.

Instructor

UGA Math Camp, University of Georgia, June 2013.

Designed a hands-on course in graph theory for local high school students. Gave a plenary talk on the mathematics behind the card game SET.

Panelist

Sonia Kovalevsky Math Day, Dartmouth College, November 2011.

Provided advice to middle school girls on pursuing a career in mathematics.

Calculus Instructor

Summer Institute for the Gifted, Dartmouth College, August 2010.

Designed and taught individualized calculus courses based on the Renzulli learning model.

Lecturer

CTY Odyssey Program In Mathematics, Dartmouth College, May 2010 & May 2011.

Member of the organizing committee (2011). Designed and led exploratory sessions for middle school students on patterns in the prime numbers and cryptography.

Instructor

Exploring Mathematics, Dartmouth College, July 2009

Worked with three other instructors to develop and teach hands-on courses on topics from group theory and combinatorics.

Invited Panelist

Nebraska Conference for Undergraduate Women in Math, January 2009.

Provided mentorship to undergraduate women interested in pursuing graduate studies in mathematics. Chaired a session of undergraduate research talks in number theory.

Teaching Assistant

Cryptography & Security Camp, Dartmouth College, June 2008.

Assisted high school students with cryptography problem sets and programming.

Counselor

Ross Mathematics Program, The Ohio State University, Summer 2007.

Provided individualized instruction in elementary number theory to high school students using the Moore method.

SERVICE TO THE PROFESSION:

Journal Referee

Acta Arithmetica (2 articles: 2013, 2016).
Colloquium Mathematicum (1 article: 2019)
Finite Fields and Applications (1 article: 2015).
Mathematics of Computation (1 article: 2017).
Mathematical Proceedings of the Cambridge Philosophical Society (1 article: 2016).
Mathematika (1 article: 2018)
Primus (1 article: 2016)
Proceedings of the American Mathematical Society (1 article: 2019)
The American Mathematical Monthly (3 articles: 2012, 2015, 2016).
The International Journal of Number Theory (2 articles: 2013, 2017).
The Journal of Number Theory (2 articles: 2016, 2017).

Mathematical Reviews

Reviews: MR2904139.

MAA Ohio Committee on Section Activities

Committee Member, Fall 2013 - Spring 2016.

Judge for MAA Student Paper Session 4

MAA MathFest (2013).

SERVICE TO OBERLIN:

Howard Hughes Medical Institute Inclusive Excellence Grant

Co-Director, Fall 2018 - Summer 2019.

Oberlin HHMI Leadership Team

Member, Spring 2018 - Present.

Sigma Xi, Oberlin Chapter

Vice President, Fall 2015 - Spring 2016.

Mead-Swing Lectureship Committee

Member, Fall 2014 - Spring 2016, Fall 2017 - Spring 2018.

Cognitive Science Committee

Member, Fall 2014 - Spring 2015, Fall 2017 - Spring 2018.

Goldwater Scholarship Nominating Committee

Fall 2014, Fall 2015.

PROFESSIONAL AFFILIATIONS:

American Mathematical Society, 2007 - Present.

Mathematical Association of America, 2012 - Present.

Association for Women In Mathematics, 2006 - Present.

REFERENCES: Available upon request.