

Research

Number theory, arithmetic combinatorics

Employment

- **Williams College:** Associate Professor (with tenure), 2020–present.
- **Williams College:** Assistant Professor, 2014–2020.
- **University of Toronto:** Assistant Professor, 2011–2014.
- **University of Toronto:** Postdoctoral Fellow, 2009–2011.

Education

- **University of Michigan,** Ph.D. in Mathematics, 2009.
- **Princeton University,** B.A. in Mathematics, 2004.

Publications & Preprints

16. (with J. Bober) *A converse to a theorem of Gauss on Gauss sums*, preprint available at arxiv.org/abs/2407.16937
15. (with Michael J. Curran) *Khovanskii's theorem and effective results on sumset structure*, Discrete Analysis 2021, Paper No. 27, 25 pp.
14. (with Elijah Fromm) *Improving the Burgess bound via Pólya-Vinogradov*, Proc. AMS 147 (2019), no. 2, 461–466.
13. (with J.-P. Allouche) *Mock characters and the Kronecker symbol*, J. Number Theory, 192 (2018), 356–372.
12. (with J. Bober, A. Granville, D. Koukoulopoulos) *The distribution of the maximum of character sums*, J. Eur. Math. Soc. (JEMS) 20 (2018), no. 7, 1759–1818.
11. (with P. Pollack) *Refinements of Lagrange's four-square theorem*, Amer. Math. Monthly 125 (2018), no. 3, 258–263.
10. (with J. Bober) *Pólya-Vinogradov and the least quadratic nonresidue*, Math. Ann. 366 (2016), no. 1-2, 853–863.
9. (with C. Khoury, S. J. Miller, and K. Ninsuwan) *On the spectral distribution of large weighted random regular graphs*, Random Matrices Theory Appl. 3 (2014), no. 4, 22 pp.
8. (with Y. Lamzouri) *Large even order character sums*, Proc. Amer. Math. Soc. 142 (2014) no. 8, 2609–2614.
7. (with V. Blomer and B. Louvel) *L-functions with n -th order twists*, IMRN 2014 (7), 1925–1955.
6. (with J. Bober) *The distribution of the maximum of character sums*, Mathematika, Vol. 59 (02), 2013, pp. 427–442.
5. (with B. Louvel) *A quadratic large sieve inequality over number fields*, Math. Proc. Camb. Phil. Soc., Volume 154 (02), 2013, 193–212.
4. (with Y. Lamzouri) *Lower bounds on odd order character sums*, IMRN 2012 (21), 5006–5013.
3. *Multiplicative mimicry and improvements to the Pólya-Vinogradov inequality*, Algebra and Number Theory Vol. 6 (2012), No. 1, 123–163.
2. *Character sums to smooth moduli are small*, Canad. J. Math. Vol. 62 (5), 2010 pp. 1099–1115.
1. (with E. Lopez et al.) *Postbreakthrough behavior in flow through porous media*, Physical Review E 67, 056314 (2003).

Teaching

Calculus for Management I	University of Toronto
Calculus I	University of Michigan & Williams College
Calculus II	University of Michigan & Williams College
Honors Calculus I	University of Toronto
Honors Calculus II	University of Toronto
Discrete Mathematics	Williams College
Linear Algebra	Williams College
Elementary Number Theory	University of Toronto & Williams College
Cryptography	University of Toronto & Williams College
Introduction to Analysis	University of Toronto
Real Analysis	Williams College
Fourier Analysis	Williams College
Measure Theory	Williams College
Topology	Williams College
Groups and Symmetry	University of Toronto
Galois Theory	Williams College
History of Mathematics I	University of Toronto
Expander Graphs	University of Toronto
Additive Combinatorics	University of Toronto & Williams College
Analytic Number Theory	Williams College
Algebraic Number Theory	University of Toronto
Combinatorial Geometry	Boston-area Math Circle (for 4th-6th graders)

Research Mentoring

- **Postdoctoral:**
Jing-Jing Huang (2012 – 2014), jointly supervised with J. Friedlander
- **Undergraduate:**
Tate Chutkow (2024-25), Zoe Kane (2024-25), Rachel Schmidt (2024-25), Justin Cheigh (2023-24), Satya Benson (2023), Ammar Eltigani (2023), Bruce Fang (2023), Levi Borevitz (2022-23), Alicia Smith Reina (2021-22), Benjamin Baily (2021), Jonathan Geller (2021), William Johnson (2019, 2021), Justine Dell (2021), Henry Fleischmann (2021), Ethan Pesikoff (2021), Brian Hu (2021), Luke Reifenberg (2021), Emil Graf (2020-21), Adam Dionne (2020), Michael Curran (2019-20), Benjamin Logsdon (2019-20), Grace Mabie (2018-19), Elijah Fromm (2016-17), Gabriel Staton (2015-16), Gal Gross (2015), Vidya Venkatesh (2015), Huy Pham (2015), Sophia Dever (2015), Michael Druker (2015), Fadi Hirmiz (2012), Chao Shen (2012), Joshua Seaton (2010-2011), Sergio da Silva (2009-2011), Mitsuru Wilson (2009-2010), Ilia Smirnov (2009-2010), Barum Rho (2009-2010).

Service

- AMS-MAA-SIAM Joint Committee on the Porter Public Lecture (2024-27)
- Invited panelist in session *How to give good talks*, Midwest Arithmetic Geometry and Number Theory Series, Zoomland (August 2021).
- Co-organizer, *Discrete Analysis*, Special Session at CMS Winter Meeting, Montréal, QC, Canada (December 2020).
- *Faculty Steering Committee* (elected position), Williams, 2019–21.
- *Committee on Educational Affairs* (elected position), Williams, 2015–16.
- Co-founder, *Fields Institute Number Theory Seminar*, 2012–14.
- Co-organizer, *New Perspectives in Multiplicative Number Theory*, Special Ses-

sion at Joint Mathematics Meetings, Boston, MA, January 2012.

- Co-organizer, *Third Montréal-Toronto Workshop in Number Theory*, Fields Institute, Toronto, ON, October 2011.
- Co-Director, *Math Circle Summer Teacher Training Institute*, University of Notre Dame, Notre Dame, IN, July 2010 and 2011.

Personal

Phone: (413) 597-2361

Email: lg5@williams.edu

Website: web.williams.edu/Mathematics/lg5/

Citizenship: USA

Children: 2 (born 2019 and 2022)

Erdős number: 2 (LG–Andrew Granville–Paul Erdős)

Bacon number: 3 (LG–Sarah Babb–Alicia Silverstone–Kevin Bacon)

Languages:

- English (native)
- Russian (native)
- French (conversational)
- Italian (reading)
- German (deplorable)

Hobbies:

- Actor, film (*Year on Ice*)
- Actor, stage (Stanford Shakespeare Company, 2007-08 season)
- Voice actor, audio guide recordings for Clark Art Institute, Williamstown, MA
- Opera singer (Royal Conservatory's productions of *Don Giovanni* (2013) and *The Cunning Little Vixen* (2014), Koerner Hall, Toronto, Canada)
- Violist (Berkshire Symphony Orchestra, Williamstown, MA, Fall 2014–present)
- Sports (badminton, boxing, cross-country skiing, hiking, running, swimming)