

Junxian Li

CONTACT INFORMATION	Max Planck Institute for Mathematics Vivatsgasse 7, 53111 Bonn Germany	jli135@mpim-bonn.mpg.de https://jligit.github.io/
RESEARCH INTERESTS	L -functions, Primes, Exponential sums, Additive Combinatorics Automorphic Forms	
EMPLOYMENT	Max Planck Institute for Mathematics Mentors: Valentin Blomer and Pieter Moree	Sept 2019–
	Georg-August Universität Göttingen Mentors: Valentin Blomer and Harald Helfgott	Sept 2018–Aug 2019
EDUCATION	University of Illinois at Urbana-Champaign Ph.D. in Mathematics Advisor: Alexandru Zaharescu	Sept 2009–Aug 2013
	Nanjing University B.A. in Mathematics	Sept 2009–Aug 2013
PUBLICATIONS	<ol style="list-style-type: none">1. Zeros of a family of approximations of Hecke L-functions associated with cusp forms (with A. Roy and A. Zaharescu), <i>Ramanujan J.</i> 41(1-3): 391–419, 2016.2. Smooth L^2 distances and zeros of approximations of Dedekind zeta functions (with M. Nastasescu, A. Roy, and A. Zaharescu), <i>Manuscripta Math.</i> 154(1-2): 195–223, 2017.3. A lower bound for the least prime in an arithmetic progression (with K. Pratt and G. Shakan), <i>Q. J. Math.</i>, 68(3): 729–758, 2017.4. Exact evaluation of second moments associated with some families of curves over a finite field (with R. Donepudi and A. Zaharescu), <i>Finite Fields Appl.</i> 48: 331–355, 2017.5. On distinct consecutive r-differences (with G. Shakan), <i>J. Number Theory</i> 199: 363–376, 2019.6. Leading Digits of Mersenne Numbers (with Z. Cai, M Faust, A. J. Hildebrand, and Y. Zhang), <i>Exp. Math.</i> to appear, arXiv:1712.04425.7. Ducci iterates and similar ordering on sets of visible points (with A. Tamazyan and A. Zaharescu), <i>Int. J. Number Theory</i> 16(1): 1–28, 2020.8. A binary quadratic Titchmarsh divisor problem <i>Acta Arithmetica</i> 192(4): 341–361, 2020.9. A local Benford Law for a class of arithmetic sequences (with Z. Cai and A. J. Hildebrand), <i>Int. J. Number Theory</i> 15(3): 613–638, 2019.10. Almost Beatty Partitions (with A. J. Hildebrand, X. Li, and Y. Xie), <i>J. Integer Seq.</i> 22(4): Art. 19.4.6, 34 pp, 2019.	

11. The final problem: an identity from Ramanujan's lost notebook (with B. Berndt and A. Zaharescu), *J. Lond. Math. Soc.* 100(2): 568–591, 2019.
12. The surprising accuracy of Benford's law in mathematics (with Z. Cai, M. Faust, A. J. Hildebrand and Y. Zhang), *Amer. Math. Monthly* 127(3): 217–237, 2020.
13. Value distribution of $L'(\rho)$ (with A. Zaharescu), *J. Math. Anal. Appl.* 480(1): 123400, 24 pp, 2019.
14. Large values of Dirichlet L -functions at zeros of a class of L -functions *Canad. J. Math.* to appear.
15. Lower bounds for discrete negative moments of the Riemann zeta function (with W. Heap and J. Zhao), arXiv:2003.09368.
16. Uniform Titchmarsh divisor problems (with E. Assing and V. Blomer), arXiv:2005.13915.

CONFERENCE PROCEEDINGS

1. On primes in arithmetic progressions Automorphic forms and related topics, 165–167, *Contemp. Math.* 732, Amer. Math. Soc., Providence, RI, 2019
2. The Final Problem: A Series Identity from the Lost Notebook (with B. C. Bruce and A. Zaharescu), *George Andrews - 80 Years of Combinatory Analysis*, 2020.

HONORS AND AWARDS

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|---|-------------|
| Bateman Fellowship in Number Theory | Spring 2018 |
| On the List of Teachers Ranked as Excellent by their Students | Fall 2017 |

TEACHING EXPERIENCE

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|-------------------------------------|-------------------|
| Math 415 Linear Algebra, Instructor | UIUC, Fall 2017 |
| Math 415 Linear Algebra, Instructor | UIUC, Spring 2017 |
| Math 231 Calculus II, Instructor | UIUC, Spring 2016 |
| Math 241 Calculus III, Instructor | UIUC, Fall 2016 |
| Math 241 Calculus III, Instructor | UIUC, Spring 2015 |

UNDERGRADUATE MENTORING

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| □ Illinois Geometry Lab Graduate Student Mentor | |
| • Almost Beatty Partitions | Fall 2018 |
| • Beatty sequences, and Partitions of the Integers | Spring 2018 |
| • Chaotic maps and exotic number systems | Fall 2017 |
| • Finding integers in group orbits | Spring 2017 |
| • Local Benford's Law | Fall 2016 |
| • Leading digit distribution | Spring 2016 |
| • Random Walk in number theory | Fall 2015 |
| • Fractals, Patterns and Randomness in Number Theory | Spring 2015 |
| • Fourier Series with Number theoretic coefficients | Fall 2014 |
| • Symmetry in Nature | Spring 2014 |

PROFESSIONAL SERVICES

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| □ Organizer of AMS Special Session at the Joint Mathematics Meeting | 2019 |
| • Number Theoretic Methods in Hyperbolic Geometry | |
| □ Organizer of Graduate Student Number Theory Seminar in UIUC | 2016–2018 |
| □ Referee: | |
| • J. Number Theory | |
| • Math. Reports | |
| • Rev. Roumaine Math. Pures Appl. | |
| • J. Math. Sci. Adv. Appl. | |

CONFERENCES
AND SEMINAR
TALKS

- ❑ Joint Value Distribution of L -functions.
Oberseminar Analytic Number Theory, Bonn(online). Nov 2020
- ❑ Derivative of the Riemann zeta function at its zeros.
Analytic Number Theory Meeting, IHP (online). Jun 2020
- ❑ Extreme values of L -functions
Number theory lunch seminar, MPIM. Oct 2019
- ❑ Extreme values of L -functions
Oberseminar analytic number theory, Georg-August Universität Göttingen. Nov 2018
- ❑ The Unreasonable Effectiveness of Benford's Law in Mathematics
Joint with A. J. Hildebrand, Number Theory Seminar, UIUC. Apr 2018
- ❑ Primes in arithmetic progressions
Junior Mathematics Colloquium, Georg-August Universität Göttingen. Dec 2017
- ❑ Randomness in Number Theory
Graduate Student Colloquium, UIUC. Nov 2017
- ❑ Primes in arithmetic progressions
Where Geometry meets Number Theory, a conference in honor of
the 60th birthday of Per Salberger, Gothenburg. July 2017
- ❑ The least prime in an arithmetic progression
Joint Mathematics Meeting, Atlanta. Jan 2017
- ❑ On the least prime in an arithmetic progression
Number Theory Seminar, UIUC. Sept 2016
- ❑ A lower bound on the least prime in an arithmetic progression,
Workshop on Automorphic Forms and Related Topics, Sarajevo . Jul 2016
- ❑ Approximations of L -functions
2015 Midwest Number Theory Conference for Graduate Students
and Recent Ph. D's. Oct 2015
- ❑ Approximations of L -functions
Graduate Student Number Theory Seminar, UIUC. Nov 2015
- ❑ Bailey Pairs and Bailey chains
 q -series Seminar, UIUC. Apr 2015
- ❑ Basic Hypergeometric functions
 q -series Seminar, UIUC. Mar 2015

RESEARCH
EXPERIENCE

- ❑ Zeta functions, CIRM Dec 2019
- ❑ Second Symposium on Analytic Number Theory, Cetraro July 2019
- ❑ Rational points on irrational varieties, IHP June 2019
- ❑ L -functions and Multiplicative Number Theory, U of Mississippi May 2019
- ❑ Distribution of values of zeta functions and L -functions, RIKEN Mar 2019
- ❑ Workshop and Winter School on Local Statistics of Point Sequences, Linz Feb 2019
- ❑ Building Bridges: 4th EU/US Summer School
and Workshop on Automorphic Forms and Related Topics July 2018
- ❑ Hausdorff School: L -functions: Open Problems and Current Methods June 2018
- ❑ MRC: Number Theoretic Methods in Hyperbolic Geometry June 2018
- ❑ Probability in Number Theory May 2018
- ❑ Arbeitsgemeinschaft in Oberwolfach Oct 2017
- ❑ MSRI Summer Graduate School on Automorphic Forms
and the Langlands Program Aug 2017
- ❑ PCMI Graduate Summer School on random matrices June 2017
- ❑ University of Houston Summer School on Dynamical Systems May 2017
- ❑ MSRI: Analytic Number Theory Jan, May 2017
- ❑ West Coast Algebraic Topology Summer School Aug 2016
- ❑ Building Bridges: 3rd EU/US Summer School
and workshop on Automorphic Forms July 2016
- ❑ UNCG Summer School in Computational Number Theory June 2016

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| <input type="checkbox"/> Houston Summer School on Dynamical Systems | May 2016 |
| <input type="checkbox"/> UNCG Summer School in Computational Number Theory | May 2015 |
| <input type="checkbox"/> Exchange in University of Wisconsin-Madison | Fall 2012 |

OUTREACH
ACTIVITIES

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| <input type="checkbox"/> Four Color Fest | Nov 1-4 2017 |
| <input type="checkbox"/> A Math Carnival at Illinois-Gathering for Gardener | Jan 28 2017 |
| <input type="checkbox"/> Science at the Market | Aug 2013 |

SKILLS

Programming: C++, Mathematica, Matlab, Python
 Languages: English, Chinese