Junxian Li

CONTACT INFORMATION

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https://jligit.github.io/

RESEARCH INTERESTS

L-functions, Exponential Sums, Primes, Algebraic Curves,
Dynamical Systems, Ergodic Theory, Additive Combinatorics.

EMPLOYMENT

Georg-August Universität Göttingen
Postdoctoral Research Assistant
Advisor: Valentin Blomer

EDUCATION

University of Illinois at Urbana-Champaign
Ph.D. in Mathematics, August 2018
Advisor: Alexandru Zaharescu

Nanjing University
B.A. in Mathematics, May 2013

PUBLICATIONS

Zeros of a family of approximations of Hecke L-functions associated with cusp forms (with A.Roy and A. Zaharescu), Ramanujan J., 41(1-3):391–419, 2016.

Smooth L^2 distances and zeros of approximations of Dedekind zeta functions (with M. Nastasescu, A. Roy, and A. Zaharescu), Manuscripta Math., 154(1-2):195–223, 2017.

A lower bound for the least prime in an arithmetic progression (with K. Pratt and G. Shakan), The Quarterly Journal of Mathematics (Oxford), 68(3):729–758, 2017.

Exact evaluation of second moments associated with some families of curves over a finite field (with R. Donepudi and A. Zaharescu), Finite Fields Appl., 48:331–355, 2017.

On distinct consecutive r-difference (with G. Shakan), J. Number Theory. to appear, arXiv preprint arXiv:1708.03742.

Leading Digits of Mersenne Numbers (with Z. Cai, M Faust, A.J. Hildebrand, and Y. Zhang), Exp. Math. to appear, arXiv preprint arXiv:1712.04425.

Ducci iterates and similar ordering on sets of visible points (with A. Tamazyan and A. Zaharescu), submitted.

A binary quadratic Titchmarsh divisor problem, arXiv preprint arXiv:1808.00837

A local Benford Law for a class of arithmetic sequences(with Z. Cai and A.J. Hildebrand), Int. J. Number Theory. to appear, arXiv preprint arXiv:1808.01496

Almost Beatty Partitions(with A.J. Hildebrand, X. Li, and Y. Xie), arXiv preprint arXiv:1809.08690

The final problem: an identity from Ramanujan's lost notebook(with B. Berndt and A. Zaharescu), submitted.

Large values of degree 1 *L-functions at the zeros of other L-functions*, preprint.

Honors and Awards

Bateman Fellowship in Number Theory — *Spring 2018*

Teaching Experience

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

Professional Services

- ❑ *Organizer of Graduate Student Number Theory Seminar in UIUC* — *2016-2018*
- ❑ *Illinois Geometry Lab 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*

Conferences and Seminar Talks

Extreme values of L-functions
Oberseminar analytic number theory, Georg-August Universität Göttingen. *Nov 2018*

Primes in arithmetic progressions
Junior Mathematics Colloquium, Georg-August Universität Göttingen. *Dec 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. *Sep 2016*

A lower bound on the least prime in an arithemetic progression,
Workshop on Automorphic Forms and Related Topics, Sarajevo . *July 2016*

Approximations of L-functions
2015 Midwest Number Theory Conference for Graduate Students
and Recent PhD's. *Oct 2015*

Approximations of L-functions
Graduate Student Number Theory Seminar, UIUC. *Nov 2015*

Bailey Pairs and Bailey chains

q series Seminar, UIUC. *April 2015*

Basic Hypergoemetric functions
q series Seminar, UIUC. *March 2015*

Research Experience

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 *August 2017*

PCMI Graduate Summer School on random matrices *June 2017*

University of Houston Summer School on Dynamical Systems *May 2017*

West Coast Algebraic Topology Summer School *August 2016*

Building Bridges: 3rd EU/US Summer School and workshop on Automorphic Forms *July 2016*

UNCG Summer School in Computational Number Theory *June 2016*

Houston Summer School on Dynamical Systems *May 2016*

UNCG Summer School in Computational Number Theory *May 2015*

Exchange in University of Wisconsin-Madison *Fall 2012*

Outreach Activities

- ❑ Four Color Fest *Nov 1-4, 2017*
- ❑ A Math Carnival at Illinois-Gathering for Gardener *January 28, 2017*
- ❑ Science at the Market *August, 2013*

Skills

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