BINGRONG HUANG

CURRICULUM VITAE

BIRTHDAY: 1990.01
BIRTHPLACE: Fujian, China
NATIONALITY: Chinese

MAILING ADDRESS

Data Science Institute
Shandong University
Jinan, Shandong 250100, China

CONTACT INFORMATION

Office: Mingde Building, Room C701
Phone: +86 0531-88369786
E-mail: brhuang@sdu.edu.cn
Webpage: `http://faculty.sdu.edu.cn/brhuang`

RESEARCH INTERESTS

Analytic Number Theory, Automorphic Forms, L-functions, Quantum Chaos.

EDUCATION

Ph.D.   Shandong University, 2012.09–2017.06 (Advisors: Prof. Jianya Liu and Dorian Goldfeld).
B.S.   Shandong University, 2008.09–2012.06.

EMPLOYMENT

2019.08–now   Professor, Data Science Institute, Shandong University.

POSITIONS

2017.10–2019.08   Postdoctoral fellow, Tel Aviv University (Supervisor: Prof. Zeév Rudnick).

VISITING POSITIONS

2015.08–2017.02   Joint-cultivated doctoral student, Columbia University (Prof. Wei Zhang).

TEACHING

- 2021 spring, Fundamentals in Number Theory (bilingually in English and Chinese), Shandong University Taishan College.
- 2020 winter, Basic Algebra and Geometry (in Chinese), School of Mathematics, Shandong University.

Preprints

- Uniform subconvexity bounds for $\mathrm{GL}(3) \times \mathrm{GL}(2)$ L-functions, *ArXiv preprint*, 31 pp, 2021. `https://arxiv.org/abs/2104.13025`

- (with Zhao Xu), Hybrid subconvexity bounds for twists of $\mathrm{GL}(3) \times \mathrm{GL}(2)$ L-functions, *ArXiv preprint*, 33 pp, 2021. `https://arxiv.org/abs/2103.11361`

- (with Stephen Lester), Quantum variance for dihedral Maass forms, *ArXiv preprint*, 42 pp, 2020. `https://arxiv.org/abs/2007.02055`

Publications

17. (with Yongxiao Lin and Zhiwei Wang), Averages of coefficients of a class of degree 3 L-functions, To appear in *Ramanujan J.*, 13 pp, 2021.

16. On the Rankin–Selberg problem, To appear in *Math. Ann.*, 35 pp, 2021.

15. (with Daniel El-Baz and Min Lee), Effective equidistribution of primitive rational points on expanding horospheres, To appear in *J. Eur. Math. Soc. (JEMS)*, 21 pp, 2021.

14. (with Olga Balkanova and Anders Södergren), Non-vanishing of Maass form L-functions at the critical point, *Proc. Amer. Math. Soc.* 149 (2021), no. 2, 509–523.

13. Quantum variance for Eisenstein Series, *Int. Math. Res. Not. IMRN* 2021, no. 2, 1224–1248.

12. Hybrid subconvexity bounds for twisted L-functions on $\mathrm{GL}(3)$, *Sci. China Math.* 64 (2021), no. 3, 443–478.

11. (with Jianya Liu and Zeév Rudnick), Gaussian primes in almost all narrow sectors, *Acta Arith.* 193 (2020), no. 2, 183–192.

10. (with Dorian Goldfeld), Super-positivity of a family of L-functions, *Banach Center Publications* 118 (2019), 45–93.

9. Sup-norm and nodal domains of dihedral Maass forms, *Comm. Math. Phys.* 371 (2019), no. 3, 1261–1282.

8. (with Zeév Rudnick), Prime lattice points in ovals, *Monatsh. Math.* 189 (2019), no. 2, 295–319.

7. (with Shenhui Liu and Zhao Xu), Mollification and non-vanishing of automorphic L-functions on $\mathrm{GL}(3)$, *Israel J. Math.* 227 (2018), no. 2, 597–622.

6. (with Dorian Goldfeld), Super-positivity of a family of L-functions in the level aspect. *Res. Math. Sci.* 5 (2018), no. 2, 5:16.

5. (with Zhao Xu), Sup-norm bounds for Eisenstein series. *Forum Math.* 29 (2017), no. 6, 1355–1369.

4. (with Xiaoguang He), Exponential sums involving the Möbius function. *Acta Arith.* 175 (2016), no. 3, 201–209.

3. Exponential sums over primes in short intervals and an application to the Waring–Goldbach problem. *Mathematika* 62 (2016), no. 2, 508–523.

2. Strong orthogonality between the Möbius function and nonlinear exponential functions in short intervals. *Int. Math. Res. Not. IMRN* 2015, no. 23, 12713–12736.

1. (with Zhiwei Wang), Exponential sums over primes in short intervals. *J. Number Theory* 148 (2015), 204–219.

- Kloosterman sums on GL(4). An appendix to "An orthogonality relation for GL(4, ℝ)" by Goldfeld, Stade, and Woodbury, *Forum Math. Sigma* 9 (2021), Paper No. e47, 83 pp.
- (with Daniel El-Baz), Equidistribution of the lengths of the primitive vectors in integer lattices. An appendix to "Uniform distribution of saddle connection lengths" by Chaika and Robertson, *J. Mod. Dyn.* 15 (2019), 329–343.

Conference Talks

- 2021.07, The University of Hong Kong, *Quantum variance for automorphic forms.*
- 2021.06, Jiangsu Hualuogeng Senior High School, *On the Rankin–Selberg problem.*
- 2021.05, Zhejiang University, *Quantum variance for automorphic forms.*
- 2020.04, Xi'an Jiaotong University, *Sup-norm and nodal domains of dihedral Maass forms.*
- 2018.07, Queen Mary University of London, *Sup-norm and nodal domains of dihedral Maass forms.*
- 2018.06, Shandong University, *Super-positivity of a family of L-functions.*
- 2018.05, Technion, *Prime lattice points in ovals.*
- 2018.04, The University of Hong Kong, *Prime lattice points in ovals.*
- 2017.08, Shandong University at Weihai, *Kuznetsov trace formulas and their applications.*
- 2017.06, AMSS, *Super-positivity of a family of L-functions.*
- 2014.08, Shandong University at Weihai, *Exponential sums over primes in short intervals.*

Seminar Talks

- 2021.05, Westlake University, *Sup-norms of automorphic forms.*
- 2021.04, Shandong University, *On the Rankin–Selberg problem.*
- 2020.11, Shandong University at Weihai, *Effective equidistribution of primitive rational points on expanding horospheres.*
- 2020,11, Shandong Normal University, *Quantum variance for automorphic forms.*
- 2020.05, Xi'an Jiaotong University, *On the Rankin–Selberg problem.*
- 2019.10, AMSS, *Zeros of L-functions and random matrix theory.*
- 2019.04, Technion, *Equidistribution of primitive rational points on expanding horospheres.*
- 2019.03, Tel Aviv University, *Prime angles for quadratic fields.*
- 2019.01, Shandong University, *Quantum variance for Eisenstein series.*
- 2018.05, Tel Aviv University, *Prime lattice points in ovals.*
- 2018.04, Institut Élie Cartan de Lorraine, *Prime lattice points in ovals.*
- 2018.01, Tel Aviv University, *Super-positivity of a family of L-functions.*
- 2017.11, Tel Aviv University, *Zero density theorems, I & II.*
- 2017.09, Huaqiao University, *Some analytic aspects of L-functions.*
- 2017.06, Xi'an Jiaotong University, *Super-positivity of a family of L-functions.*
- 2017.05, Shandong University, *The subconvexity problem of L-functions and their applications.*
- 2015.11, Columbia University, *Hybrid sup-norm bounds for Eisenstein series.*

- 2021.07, Xi'an Jiaotong University, *Analytic theory of automorphic forms on GL(2)*.

ACADEMIC ACTIVITIES

2021

- Jul. 21-27, 2021, HKU Number Theory Days 2021, The University of Hong Kong, China.
- Jul. 12-22, 2021, 2021 Summer School on Number Theory, Xi'an Jiaotong University, China.
- Jun. 25-30, 2021, Jintan conference on number theory (The 8th National Conference on Number Theory), Jintan, China.
- May 14-16, 2021, Symposium on Number Theory and Representation Theory, Zhejiang University, Hangzhou, China.

2020

- Apr. 17-18 and May 08-09, 2020, Number Theory in the Sky, Xi'an Jiaotong University, China.

2019

- Nov. 15-18, 2019, Workshop on Number Theory, China University of Mining and Technology-Beijing, Beijing, China.
- Sep. 14-15 and Oct. 19-20, 2019, Analytic Number Theory Seminar, AMSS, Beijing, China.
- Jul. 8-12, 2019, Second Symposium on Analytic Number Theory, Grand Hotel San Michele, Cetraro, Italy.
- Jun. 17-21, 2019, Arithmetic, geometry, and modular forms: a conference in honour of Bill Duke, ETH Zürich, Switzerland.
- Mar. 12, 2019, Automorphic forms & representation theory: A conference in memory of Ilya Piatetski-Shapiro, Weizmann Institute of Science, Israel.
- Feb. 18-21, 2019, Function field arithmetic conference, Tel Aviv University, Israel.

2018

- Nov. 19-23, 2018, Workshop on "Geometric and Analytic Number Theory", Göttingen, Germany.
- Sep. 3-7, 2018, Conference on "Elementare und Analytische Zahlentheorie (ELAZ)", MPIM, Germany.
- Jul. 23-27, 2018, Analytic number theory and quantum chaos workshop: "L-functions and Multiplicative Functions", Queen Mary University of London, UK.
- Jun. 25-29, 2018, Hausdorff Summer School: L-functions, Open Problems and Current Methods, Hausdorff Center for Mathematics, University of Bonn, Germany.
- Jun. 18-22, 2018, Automorphic Forms and L-functions – A Conference in Celebration of Dorian Goldfeld's 71 Birthday, Shandong University, Qingdao, China.
- Jun. 04-07, 2018, Heilbronn: Perspectives on the Riemann Hypothesis, Bristol, UK.
- May 24, 2018, The 2018 IMU annual meeting, Technion - Israel Institute of Technology, Israel.
- Apr. 19-21, 2018, Number Theory and its connections with Random Matrices and Extreme Values, The University of Hong Kong, China.

2017

- Aug. 6-7, 2017, Automorphic Representations and L-functions, Shandong University, Weihai, China.
- Jul. 3-7, 2017, Analytic Methods in Diophantine Problems, Shandong University, Weihai, China.
- Jun. 15-18, 2017, Workshop on Number Theory and Dynamics, AMSS, China.
- Apr. 22-23, 2017, Diophantine Equations and Related Topics, Xiamen University, China.
- Apr. 03-07, 2017, NCG workshop: Number theory, Fudan University, China.
- Feb. 06-10, 2017, Introductory Workshop: Analytic Number Theory, MSRI, USA.

2016 and earlier

- Jun. 13-16, 2016, L-functions and arithmetic, Harvard, USA.
- May 21-24, 2016, Analysis and Beyond - Celebrating Jean Bourgain's Work and Impact, IAS, USA.
- Nov. 9-13, 2015, Computational Aspect of L-functions, ICERM, USA.
- Jul. 20-24, 2015, PANTC 2015, TSIMF, Sanya, China.
- May 16-19, 2015, The 7th National Conference on Number Theory, Shandong University, Jinan, China.
- May 11-15, 2015, Conference on Arithmetic Algebraic Geometry in honor of Professor Nicholas Katz's 71 birthday, MCM & AMSS, China.
- Aug. 11-16, 2014, Workshop on Number Theory, Shandong University, Weihai, China.
- Jul. 9-23, 2014, Summer school Analytic Number Theory, Institut des Hautes Études Scientifiques, France.
- Jan. 7-9, 2014, Number Theory Conference in Honor of Peter Sarnak, Shandong University, Jinan, China.
- Jul. 16-26, 2012, China-France Summer School on Number Theory, Shandong University, Weihai, China.
- Aug. 1-12, 2011, Workshop on Number Theory, Shandong University, Weihai, China.

July 26, 2021