Shenxing Zhang

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Education

- **Ph.D. Mathematics**, *Nov. 2015*
  School of Mathematical Sciences
  University of Science and Technology of China
  Advisor: Yi Ouyang
- **B.A. Mathematics**, *Jun. 2010*
  School of the Gifted Young
  University of Science and Technology of China
  Advisor: Yi Ouyang
- **Visiting Student**, *May 2015 – Jun. 2015*
  Department of Mathematics
  University of California, Berkeley, USA
  Advisor: Xinyi Yuan

Academic Appointment

- **Research Associate Professor**, *Dec. 2021 – Present*
  School of Mathematics
  Hefei University of Technology
- **Postdoctoral Fellow**, *Apr. 2018 – Nov. 2021*
  School of Mathematical Sciences
  University of Science and Technology of China
  Mentor: Yi Ouyang
- **Postdoctoral Fellow**, *Mar. 2016 – Feb. 2018*
  Academy of Mathematics and Systems Science
  Chinese Academy of Sciences
  Mentor: Ye Tian

Publications and Preprints

Publications

- **S. Zhang**. On the Newton polygons of twisted L-functions of binomials. *Finite Fields Appl.* 80 (2022), Paper No. 102026, 20 pp.

- J. Li, **S. Zhang**. The 3-class groups of $\mathbb{Q}(\sqrt[3]{p})$ and its normal closure. *Math. Z.* 300 (2022), no. 1, 209–215.
- J. Li, Y. Ouyang, Y. Xu, **S. Zhang**. ℓ-Class groups of fields in Kummer towers. *Publ. Mat.* 66(2022), no. 1, 235–267.
- **S. Zhang**. The generating fields of two twisted Kloosterman sums. *J. Univ. Sci. Technol. China* 51 (2021), no. 12, 879-888.
- Y. Ouyang, **S. Zhang**. Birch's lemma over global function fields. *Proc. Amer. Math. Soc.* 145 (2017), no. 2, 577–584.
- Y. Ouyang, **S. Zhang**. Newton polygons of L-functions of polynomials $x^d + ax^{d-1}$ with $p \equiv -1 \bmod d$. *Finite Fields Appl.* 37 (2016), 285–294.
- Y. Ouyang, **S. Zhang**. On second 2-descent and non-congruent numbers. *Acta Arith.* 170 (2015), no. 4, 343–360.
- Y. Ouyang, **S. Zhang**. On non-congruent numbers with 1 modulo 4 prime factors. *Sci. China Math.* 57 (2014), no. 3, 649–658.

Preprints

- **S. Zhang**. On a comparison of Cassels pairings of different elliptic curves. (2022), submitted.
- Z. Wang, **S. Zhang**. On the quadratic twist of elliptic curves with full 2-torsion. (2022), submitted.
- **S. Zhang**. On linearity of the periods of subtraction games. (2021), submitted.
- **S. Zhang**. The generating fields of twisted Kloosterman sums. (2021), submitted.
- **S. Zhang**. The virtual period of the degree sequences of the exponential sums. *Arxiv:* 2010.08342, preprint.

Grants & Awards

Grants

- NSFC (12001510)
- China Postdoctoral Science Foundation (2017M611027)
- Fundamental Research Funds for the Central Universities (WK0010000061), Co-PI
- NSFC (12271335, 11601255, 11571328, 11201445, 11171317), Co-PI

Awards

- National Scholarship for Graduate Students, 2013

◇ National Scholarship for Undergraduate Students, 2009

◇ Anhui Excellent Young Student, 2006

Teaching Experience

Teaching

▶ Hefei University of Technology
- 034Y01 Mathematics (II), *Spring 2023*
- 1400261B Complex Function and Integral Transformation, *Fall 2022*
- 034Y01 Mathematics (II), *Spring 2022*

▶ University of Science and Technology of China
- 001548 Complex Variables B, *Fall 2020*
- MA05109 Algebraic Number Theory, *Spring 2020*

Teaching Assistant

▶ Tsinghua University
- The Yau Tsinghua Mathcamp, Linear Algebra & head TA, *Summer 2022*
- The Yau Tsinghua Mathcamp, Linear Algebra & head TA, *Summer 2021*

▶ Hefei University of Technology
- Probability and Statistics, *Fall 2021*

▶ University of Chinese Academy of Sciences
- Summer School on Algebra and Number Theory, *Summer 2019*
- Basic Number Theory, *Fall 2016*

▶ University of Science and Technology of China
- 001356 Basic Algebra, *Fall 2014*
- 001704 Abstract Algebra (Honor), *Spring 2013*
- 001356 Basic Algebra, *Fall 2012*
- 001010 Abstract Algebra, *Fall 2011*
- 001012 Complex Variables, *Spring 2011*

Referee for Journals

◇ International Journal of Number theory

Research Interests

◇ Elliptic curves, exponential sums, class groups, Iwasawa theory, p-adic Hodge theory

Last updated in February 10^{th}, 2023