

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**. The generating fields of twisted Kloosterman sums. *Int. J. Number Theory*, (2025), to appear.
- ◇ **S. Zhang**. On the linearity of the periods of subtraction games. *Theor. Comput. Sci.*, 985 (2024).
- ◇ **S. Zhang**. On a comparison of Cassels pairings of different elliptic curves. *Acta Arith.* 211 (2023), no. 1, 1–23.

- ◇ **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 $p \equiv -1 \pmod{d}$. *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

- ◇ Z. Wang, **S. Zhang**. On the quadratic twist of elliptic curves with full 2-torsion. (2022), submitted.
- ◇ **S. Zhang**. The virtual period of the degree sequences of the exponential sums. *Arxiv*: 2010.08342, preprint.

Grants & Awards

Grants

- ◇ 173 Program, Co-PI
- ◇ Fundamental Research Funds for the Central Universities (JZ2023HG TB0217)
- ◇ 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

- ◇ Young Teachers Teaching Basic Skills Competition in HFUT, 2nd Prize, 2023.

- ◇ National Scholarship for Graduate Students, 2013
- ◇ National Scholarship for Undergraduate Students, 2009
- ◇ Anhui Excellent Young Student, 2006

Teaching Experience

Teaching

- ▶ Hefei University of Technology
 - 1400261B Complex Function and Integral Transformation, *Fall 2022-2024*
 - 1400071B Linear Algebra, *Fall 2024*
 - 034Y01 Mathematics (II), *Spring 2022-2023*
- ▶ 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, *Summer 2021-2023*
- ▶ 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*

Publications on Teaching

- ◇ Z. Yuan, **S. Zhang**. Research on Laurent series of complex functions in different annulus (in Chinese). *Journal of Nanyang Normal University*, 2024, 23(3): 38–41.
- ◇ Y. Ouyang, **S. Zhang**. Theoretic application of elementary transformations in linear algebra teaching (in Chinese). *College Mathematics*, 2023, 39(5): 68–75.

Advisers

- ▶ Bachelor's Thesis
 - X. Qiu, Research on the isogenies of elliptic curves and its applications on cryptography, 2024
 - X. Liu, The class groups of quadratic fields and their applications, 2022
- ▶ National Student Innovation and Entrepreneurship Training Program
 - S. Zhu, Y. Wang, Y. Deng, J. Yao, T. Luo, A contagion model of 2019-nCoV, 2022-2023

Referee for Journals

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| ◇ <i>International Journal of Number theory</i> | ◇ <i>Pure and Applied Mathematics Quarterly</i> |
| ◇ <i>Algebra Colloquium</i> | ◇ <i>Bulletin of the Belgian Mathematical Society – Simon Stevin</i> |
| ◇ <i>The Ramanujan Journal</i> | ◇ <i>Scientia Sinica Mathematica (Chinese)</i> |
| ◇ <i>Finite Fields and Their Applications</i> | ◇ <i>College Mathematics (Chinese)</i> |

Research Interests

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| ◇ Elliptic curves | ◇ Class groups |
| ◇ Exponential sums | ◇ Iwasawa theory |

Last updated in March 29th, 2025