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教育背景

- 学士 山东大学 2004/9–2008/7
- 硕士 华东师范大学 2008/9–2011/6
- 博士 华东师范大学 2014/9–2017/6

工作经历

- 2017/6–2019/11 讲师 温州大学数理学院
- 2019/12–2024/11 副教授、硕士生导师 温州大学数理学院
- 2024/12 至今 教授、硕士生导师 温州大学数理学院

讲授课程

- 本科生课程: 《高等代数》、《高等数学》
- 研究生课程: 《计数组合学》、《特殊函数论》、《组合数论》

研究方向

- 数论、组合数学、特殊函数论

学术项目

- 2022–2025 组合同余式与模形式傅里叶系数
国家自然科学基金面上项目 (12171370), 50万元, 主持, 在研
- 2019–2021 带 p -adic Gamma 函数的组合同余式研究
国家自然科学基金青年项目 (11801417), 22万元, 主持, 已结题

荣誉奖励

- 温州大学新潮学者 (2021)
- 温州市“瓯越特支计划”青年拔尖人才 (2021)
- 温州大学瓯江特聘教授 CII 类 (2022)
- 温州大学优秀教师 (2022)
- 物华教学基金会物华园丁奖 (2022)

学术兼职

- 美国《数学评论》(Mathematical Reviews) 评论员
- 德国《数学文摘》(zbMATH) 评论员
- 国家自然科学基金函评专家

邀请报告

- 2019年9月20–22日, 河南洛阳, 第六届全国组合数论会议
邀请报告: q -Supercongruences on sums of Catalan numbers and central binomial coefficients
- 2020年11月20–22日, 浙江金华, 第五届组合数学与符号计算研讨会
邀请报告: Some congruences on sums of Apéry-like numbers
- 2021年11月5–8日, 河南开封, 第七届全国组合数论会议
邀请报告: Some supercongruences on q -lacunary harmonic sums and q -trinomial coefficients
- 2023年6月21–23日, 安徽芜湖, 第八届全国组合数论会议
邀请报告: Supercongruences involving Motzkin numbers and central trinomial coefficients
- 2025年7月15–17日, 黑龙江哈尔滨, 第九届全国组合数论会议
邀请报告: An extension of Gauss congruences for Apéry numbers
- 2025年8月21–23日, 浙江杭州, 第十三届海峡两岸图论与组合数学会议
邀请报告: On the binomial transforms of Apéry-like sequences

—— 学术论文 (*标记通讯作者)

1. **Ji-Cai Liu***, Wei-Wei Qi, Some supercongruences for q -trinomial coefficients, Rocky Mountain J. Math., to appear.
2. **Ji-Cai Liu***, Yeong-Nan Yeh, Enumeration and divisibility of higher dimensional king walks, Bull. Aust. Math. Soc., in press, doi: 10.1017/S0004972725100373.
3. **Ji-Cai Liu***, Kong-Lian Liao, On the positive coefficients of two families of q -series, Exp. Math., in press, doi: 10.1080/10586458.2025.2520839.
4. **Ji-Cai Liu**, On ℓ -regular partitions and Hickerson's identity, Studia Sci. Math. Hungar., in press, doi: 10.1556/012.2025.04336.
5. **Ji-Cai Liu**, A general positivity result on coefficients of certain q -series, J. Algebraic Combin. 62 (2025), Art. 46.
6. **Ji-Cai Liu***, Jing Liu, q -Supercongruences motivated by Carlitz's formula, Mediterr. J. Math. 22 (2025), Art. 110.
7. **Ji-Cai Liu***, Xue-Ting Jiang, Yeong-Nan Yeh, On super Catalan numbers modulo 8, Bull. Math. Soc. Sci. Math. Roumanie (N.S.) 116 (2025), 201–208.
8. **Ji-Cai Liu**, On the binomial transforms of Apéry-like sequences, Canad. Math. Bull. 68 (2025), 359–376.
9. Victor J.W. Guo, **Ji-Cai Liu***, A q -congruence implying the Beukers–Van Hamme congruence, Bull. Sci. Math. 201 (2025), Art. 103615.
10. **Ji-Cai Liu***, Jing Liu, A q -supercongruence arising from Andrews' ${}_4\phi_3$ identity, Bull. Aust. Math. Soc. 111 (2025), 223–227.
11. **Ji-Cai Liu**, A combinatorial approach to Berkovich type identities, Proc. Amer. Math. Soc. 153 (2025), 1425–1433.
12. **Ji-Cai Liu**, Supercongruences involving Motzkin numbers and central trinomial coefficients, Proc. Edinb. Math. Soc. 67 (2024), 1060–1084.
13. **Ji-Cai Liu**, On the Kimoto–Wakayama supercongruence conjecture on Apéry-like numbers, Arch. Math. (Basel) 123 (2024), 615–624.
14. **Ji-Cai Liu**, A supercongruence related to Ramanujan-type formula for $1/\pi$, Bull. Math. Soc. Sci. Math. Roumanie (N.S.) 115 (2024), 483–492.
15. **Ji-Cai Liu***, Anni Zhang, An approach to q -binomial theorem via m -modular diagram, Proc. Rom. Acad. Ser. A Math. Phys. Tech. Sci. Inf. Sci. 25 (2024), 167–169.
16. **Ji-Cai Liu**, On the vanishing coefficients of odd powers of Ramanujan's theta functions, Ramanujan J. 65 (2024), 45–52.

17. **Ji-Cai Liu***, Yan-Ni Li, On the divisibility of sums of q -super Catalan numbers, *Bull. Aust. Math. Soc.* 109 (2024), 215–224.
18. **Ji-Cai Liu***, Wei-Wei Qi, Two new q -supercongruences arising from Carlitz's identity, *Proc. Amer. Math. Soc.* 152 (2024), 1733–1741.
19. **Ji-Cai Liu***, Yuan-Yuan Zhao, Combinatorial proofs of two q -binomial coefficient identities, *Bull. Math. Soc. Sci. Math. Roumanie (N.S.)* 114 (2023), 383–388.
20. **Ji-Cai Liu**, On the divisibility of q -trinomial coefficients, *Ramanujan J.* 60 (2023), 455–462.
21. Victor J.W. Guo, **Ji-Cai Liu***, Michael J. Schlosser, An extension of a supercongruence of Long and Ramakrishna, *Proc. Amer. Math. Soc.* 151 (2023), 1157–1166.
22. **Ji-Cai Liu***, Shan-Shan Zhao, Truncations of Gauss' square exponent theorem, *Czechoslovak Math. J.* 72 (2022), 1183–1189.
23. Sheng Yang, **Ji-Cai Liu***, On the divisibility of sums involving Apéry-like polynomials, *Bull. Aust. Math. Soc.* 106 (2022), 203–208.
24. **Ji-Cai Liu**, A variation of the q -Wolstenholme theorem, *Ann. Mat. Pura Appl.* 201 (2022), 1993–2000.
25. **Ji-Cai Liu***, Xue-Ting Jiang, On the divisibility of sums of even powers of q -binomial coefficients, *Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat.* 116 (2022), Art. 76.
26. **Ji-Cai Liu**, Ramanujan-type supercongruences involving Almkvist–Zudilin numbers, *Results Math.* 77 (2022), Art. 67.
27. Long Li, **Ji-Cai Liu***, On two supercongruences of double binomial sums, *Period. Math. Hungar.* 83 (2021), 159–164.
28. **Ji-Cai Liu***, He-Xia Ni, On two supercongruences involving Almkvist–Zudilin sequences, *Czechoslovak Math. J.* 71 (2021), 1211–1219.
29. **Ji-Cai Liu**, On two supercongruences for sums of Apéry-like numbers, *Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat.* 115 (2021), Art. 151.
30. **Ji-Cai Liu**, Supercongruences for sums involving Domb numbers, *Bull. Sci. Math.* 169 (2021), Art. 102992.
31. **Ji-Cai Liu**, Supercongruences arising from transformations of hypergeometric series, *J. Math. Anal. Appl.* 497 (2021), Art. 124915.
32. **Ji-Cai Liu**, A supercongruence relation among Apéry-like numbers, *Colloq. Math.* 163 (2021), 333–340.

33. Moa Apagodu, **Ji-Cai Liu***, Congruence properties for the trinomial coefficients, *Integers* 20 (2020), Art. 38.
34. **Ji-Cai Liu***, Zhong-Yu Huang, A truncated identity of Euler and related q -congruences, *Bull. Aust. Math. Soc.* 102 (2020), 353–359.
35. **Ji-Cai Liu**, On two congruences involving Franel numbers, *Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat.* 114 (2020), Art. 201.
36. **Ji-Cai Liu**, On a congruence involving q -Catalan numbers, *C. R. Math. Acad. Sci. Paris* 358 (2020), 211–215.
37. **Ji-Cai Liu**, Proof of Sun’s conjectural supercongruence involving Catalan numbers, *Electron. Res. Arch.* 28 (2020), 1023–1030.
38. **Ji-Cai Liu**, Some supercongruences arising from symbolic summation, *J. Math. Anal. Appl.* 488 (2020), Art. 124062.
39. **Ji-Cai Liu**, On a sum of Apéry-like numbers arising from spectral zeta functions, *Colloq. Math.* 160 (2020), 1–6.
40. **Ji-Cai Liu**, Supercongruences arising from hypergeometric series identities, *Acta Arith.* 193 (2020), 175–182.
41. **Ji-Cai Liu***, Fedor Petrov, Congruences on sums of q -binomial coefficients, *Adv. in Appl. Math.* 116 (2020), Art. 102003.
42. Victor J.W. Guo, **Ji-Cai Liu***, Some congruences related to a congruence of Van Hamme, *Integral Transforms Spec. Funct.* 31 (2020), 221–231.
43. Ke-Yu Lin, **Ji-Cai Liu***, Congruences for the truncated Appell series F_3 and F_4 , *Integral Transforms Spec. Funct.* 31 (2020), 10–17.
44. **Ji-Cai Liu**, Supercongruences for truncated Appell series, *Colloq. Math.* 158 (2019), 255–263.
45. **Ji-Cai Liu***, Chen Wang, Congruences for the $(p - 1)$ th Apéry number, *Bull. Aust. Math. Soc.* 99 (2019), 362–368.
46. **Ji-Cai Liu**, Semi-automated proof of supercongruences on partial sums of hypergeometric series, *J. Symbolic Comput.* 93 (2019), 221–229.
47. **Ji-Cai Liu**, On Van Hamme’s (A.2) and (H.2) supercongruences, *J. Math. Anal. Appl.* 471 (2019), 613–622.
48. **Ji-Cai Liu**, Congruences on sums of super Catalan numbers, *Results Math.* 73 (2018), Art. 140.
49. Victor J.W. Guo, **Ji-Cai Liu***, q -Analogues of two Ramanujan-type formulas for $1/\pi$, *J. Difference Equ. Appl.* 24 (2018), 1368–1373.

50. **Ji-Cai Liu**, A generalized supercongruence of Kimoto and Wakayama, *J. Math. Anal. Appl.* 467 (2018), 15–25.
51. **Ji-Cai Liu**, Supercongruences involving p -adic Gamma functions, *Bull. Aust. Math. Soc.* 98 (2018), 27–37.
52. **Ji-Cai Liu***, Long Li, Su-Dan Wang, Some congruences on Delannoy numbers and Schröder numbers, *Int. J. Number Theory* 14 (2018), 2035–2041.
53. **Ji-Cai Liu**, Some supercongruences on truncated ${}_3F_2$ hypergeometric series, *J. Difference Equ. Appl.* 24 (2018), 438–451.
54. **Ji-Cai Liu**, Some finite generalizations of Gauss’s square exponent identity, *Rocky Mountain J. Math.* 47 (2017), 2723–2730.
55. **Ji-Cai Liu***, Jichun Liu, Some Extensions of the Prabhu-Srivastava Theorem Involving the (p, q) -Gamma Function, *Filomat* 31 (2017), 4507–4513.
56. **Ji-Cai Liu**, A p -adic supercongruence for truncated hypergeometric series ${}_7F_6$, *Results Math.* 72 (2017), 2057–2066.
57. **Ji-Cai Liu**, Proof of some divisibility results on sums involving binomial coefficients, *J. Number Theory* 180 (2017), 566–572.
58. **Ji-Cai Liu**, Some finite generalizations of Euler’s pentagonal number theorem, *Czechoslovak Math. J.* 142 (2017), 525–531.
59. **Ji-Cai Liu**, Congruences for truncated hypergeometric series ${}_2F_1$, *Bull. Aust. Math. Soc.* 96 (2017), 14–23.
60. **Ji-Cai Liu***, Wilberd van der Kallen, Proof of Sun’s conjectures on Schröder-like numbers, *Int. J. Number Theory* 13 (2017), 1627–1638.
61. Victor J.W. Guo*, **Ji-Cai Liu**, Proof of a congruence on sums of powers of q -binomial coefficients, *Int. J. Number Theory* 13 (2017), 1571–1577.
62. **Ji-Cai Liu**, Some congruences for Schröder type polynomials, *Colloq. Math.* 146 (2017), 187–195.
63. **Ji-Cai Liu**, On two conjectural supercongruences of Apagodu and Zeilberger, *J. Difference Equ. Appl.* 22 (2016), 1791–1799.
64. **Ji-Cai Liu**, A supercongruence involving Delannoy numbers and Schröder numbers, *J. Number Theory* 168 (2016), 117–127.
65. Victor J.W. Guo*, **Ji-Cai Liu**, Proof of some conjectures of Z.-W. Sun on the divisibility of certain double sums, *Int. J. Number Theory* 12 (2016), 615–623.
66. Victor J.W. Guo*, **Ji-Cai Liu**, Proof of a conjecture of Z.-W. Sun on the divisibility of a triple sum, *J. Number Theory* 156 (2015), 154–160.

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