**CURRICULUM VITAE**

Yong Yang
https://faculty.txst.edu/profile/1922563

*Education*

- Ph.D., *University of Florida*, 2009 (Advisor: Alexandre Turull)

*Professional experience*

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| • *Professor*, Texas State University | 2024- |
| • *Associate Professor*, Texas State University | 2019-2024 |
| • *Assistant Professor*, Texas State University | 2013-2019 |
| • *Assistant Professor*, University of Wisconsin at Parkside | 2011-2013 |
| • *Visiting Scholar and Lecturer*, Texas State University | 2009-2011 |

*Publications (Total: 1 book, 118 papers, 18 with undergraduates, 15 with graduate students, 12 with post-docs, 5 with high school students)*

*Publications with students* (**high school, *undergraduate, #graduate, ^post-doc)

1. On the largest character degree and solvable subgroups of finite groups, *Results in Mathematics*, accepted. (with Zongshu Wu**)
2. On a dual version of Huppert's $\rho - \sigma$ conjecture of codegrees, *Communications in Algebra*, accepted. (with Xia Xu#, Yang Liu, Michael Li**, Jerry Guo**)
3. The number of set-orbits of a solvable permutation group of odd order, *Communications in Algebra*. (with Yinling Gao, Cecilia Sun**)
4. On the width of element order set of a finite group, *Communications in Algebra*, https://doi.org/10.1080/00927872.2024.2431641. (with Jinbao Li, Xia Xu#, Yuchen Xu**)
5. Classifying primitive solvable permutation groups of rank 5 and 6, *J. Group Theory*, 27 (2024), 1287-1303. (with Anakin Dey*, Kolton O'Neal*, Duc Van Khanh Tran*, Camron Upshur*)
6. Recognizing Alternating groups using the codegree set, *Bull. Aust. Math. Soc.*, 110 (2024), 115-120. (with Mallory Dolorfino*, Luke Martin*, Zachary Slonim*, Yuxuan Sun*)
7. On the characterization of sporadic simple groups by codegrees, *Bull. Aust. Math. Soc.*, 109 (2024), 57-66. (with Mallory Dolorfino*, Luke Martin*, Zachary Slonim*, Yuxuan Sun*)
8. A classification of prime graphs of pseudo-solvable groups, *J. Group Theory*, 27 (2024), 89-117. (with Z. Huang*, T.M. Keller, S. Kissinger*, W. Plotnick*, M. Roma*)
9. A remark on a conjecture of Navarro and Tiep, *Comm. Algebra*, 51 (2023), 150-156. (with Awildo Gutierrez*, Yuqiao Huang*, Nguyen Ngoc Hung, Duncan Peckham*)
10. On the even abelian composition factors of finite linear groups, *Involve*, 16 (2023), 265-276. (with Awildo Gutierrez*, Yuqiao Huang*, Duncan Peckham*)
11. Classifying solvable primitive permutation groups of low rank, *J. Computational Algebra*, 5 (2023), 100005. (with Mallory Dolorfino*, Luke Martin*, Zachary Slonim*, Yuxuan Sun*)
12. Finite permutation groups with few orbits under the action on the power set, II, *Publ. Math. Debrecen*, 102 (2023), 237-254. (with Michael Gintz*, Matthew Kortje*, Megan Laurence*, Yang Liu, Zili Wang*)

13. On the characterization of some non-abelian simple groups with few codegrees, *Comm. Algebra*, 50 (2022), 3932-3939. (with Michael Gintz*, Matthew Kortje*, Megan Laurence*, Yang Liu, Zili Wang*)
14. The number of set orbits of permutation groups and the group order, *Bull. Aust. Math. Soc.*, 106 (2022), 89-101. (with Michael Gintz*, Thomas M. Keller, Matthew Kortje*, Zili Wang*)
15. On the prime graphs of several classes of finite groups, *J. Pure Appl. Algebra*, 226 (2022), 106990. (with C. Florez*, J. Higgins*, K. Huang*, T. M. Keller, D. Shen*)
16. Finite permutation groups with few orbits under the action on the power set, *Rocky Mountain J. Math.*, 51 (2021), 1553-1565. (with Alexander Betz*, Max Chao-Haft*, Ting Gong*, Thomas M. Keller, Anthony Ter-Saakov*)
17. On the odd order composition factors of finite linear groups, *J. Group Theory*, 23 (2020), 1057-1068. (with Alexander Betz*, Max Chao-Haft*, Ting Gong*, Anthony Ter-Saakov*)
18. Lower bound on the number of conjugacy classes of finite solvable groups, *Arch. Math.*, accepted. (with Mengtian Zhang#)
19. On the odd order composition factors of finite linear groups, *Comm. Algebra*, accepted. (with Fang Bian#, Xiaoyou Chen)
20. Lower bound for the number of conjugacy classes and irreducible characters, *Monatsh. Math.*, 203 (2024), 341-355. (with Yinling Gao#)
21. Results related to the Huppert's $\rho - \sigma$ conjecture, *Czechoslovak Math. Journal*, 73 (2023), 1273-1280. (with Xia Xu#)
22. The number of set-orbits of a solvable permutation group, *J. Group Theory*, 26 (2023), 101-117. (with Yinling Gao#)
23. Recognizing ${}^2G_2(q)$ using the codegree set, *Bull. Aust. Math. Soc.*, 108 (2023), 125-132. (with Haiyan Guan, Xuning Zhang#)
24. Bounding the orders of nilpotent subgroups of solvable linear groups, *Rocky Mountain J. Math.*, 52 (2022), 1605-1618. (with Yinling Gao#)
25. On class sizes and primitive character degrees of $p$-solvable groups, *Comm. Algebra*, 49 (2021), 687-689. (with Wanting Li#)
26. On $p$-parts of monomial characters of solvable groups, *Colloq. Math.*, accepted. (with Yang Liu^)
27. Huppert's analogue conjecture for PSL$(3,q)$ and PSU$(3,q)$, *Results Math.*, 78 (2023), Article number: 7. (with Yang Liu^)
28. Permutation groups and set-orbits on the power set, *Bull. Malays. Math. Sci. Soc.*, 45 (2022), 177-199. (with Yanxiong Yan^)
29. On Huppert's $\rho - \sigma$ conjecture, *Monatsh. Math.*, 197 (2022), 299-309. (with Yang Liu^)
30. Orbit sizes and odd order composition factors of linear groups, *Bull. Sci. Math.*, 171 (2021), 103017. (with Jinbao Li^)
31. Two results on the character degree sums, *J. Algebra*, 584 (2021), 243-259. (with Hongfei Pan^ and Shuqin Dong)
32. On the sum of character degrees coprime to $p$ and $p$-nilpotency of finite groups, *J. Pure Appl. Algebra*, 225 (2021), 106691. (with Hongfei Pan^, Nguyen Ngoc Hung)
33. Nonsolvable groups with five character codegrees, *Comm. Algebra*, 49 (2021), 1274-1279. (with Yang Liu^)
34. A note on $p$-parts of conjugacy class sizes of finite groups, *J. Group Theory*, 22 (2019), 933-940. (with Jinbao Li^)

*Other Major Publications*

35. *Book: Characters and Blocks of Solvable Groups: A User's Guide to Large Orbit Theorems*, Springer (2024), https://link.springer.com/book/10.1007/978-3-031-50706-9 (with James Cossey)
36. Bounding the number of $p'$-degrees characters from below, *Forum Mathematicum*, https://doi.org/10.1515/forum-2024-0033. (with Thomas M. Keller)
37. Groups with some arithmetic conditions on real sub-class sizes, *Acta Math. Hungar.*, 174 (2024), 116-120. (with Guohua Qian)
38. On $p$-groups acting on $p'$-groups, *Math. Nachr*, 297 (2024), 355-359.
39. On Gluck's conjecture, *Bull. Sci. Math.*, 183 (2023), 103235.
40. Regular orbits of finite primitive solvable groups, the final classification, *J. Symbolic Comput.*, 116 (2023), 139-145. (with Derek Holt)
41. On the number of prime divisors of character degrees and conjugacy classes of a finite group, *C. R. Math. Acad. Sci. Paris*, 360 (2022), 583-588.
42. Regular orbits of finite primitive solvable groups, III, *J. Algebra*, 590 (2022), 139-154. (with Alexey Vasil'ev and Evgeny Vdovin)
43. On diameter of Brauer character graphs of solvable groups, *Israel J. Math.*, 250 (2022), 115-138. (with James Cossey)
44. On class 2 quotients of linear groups, *Proc. Edinburgh Math. Soc.*, 64 (2021), 590-593.
45. Primitive character degrees of solvable groups, *J. Algebra*, 573 (2021), 532-538. (with Ping Jin)
46. On the prime divisors of element orders, *Math. Nachr.*, 294 (2021), 1905-1911. (with Nguyen Hung)
47. On the number of odd-degree representations of a finite group, *Math. Z.*, 298 (2021), 1559-1572. (with Nguyen Hung and Thomas Keller)
48. Large orbit sizes in finite group actions, *J. Pure Appl. Algebra*, 225 (2021), 106458. (with Guohua Qian)
49. On $p$-parts of Brauer character degrees and $p$-regular conjugacy class sizes of finite groups, *J. Algebra*, 560 (2020), 296-311. (with Christine Bessenrodt)
50. Arithmetical conditions of orbit sizes of odd order linear groups, *Israel J. Math.*, 237 (2020), 1-14.
51. Abelian subgroups, nilpotent subgroups, and the largest character degree of a finite group, *J. Algebra*, 551 (2020), 285-300. (with Nguyen Hung)
52. Abelian quotients and orbit sizes of linear groups, *Sci. China Math.*, 63 (8) (2020), 1523-1534. (with Thomas Keller)
53. On nilpotent group actions on the characters of solvable groups, *Algebr. Represent. Theory*, 23 (2020), 1-6.
54. Class 2 quotients of solvable linear groups, *J. Algebra*, 509 (2018), 386-396. (with Thomas Keller)
55. On $p$-parts of character degrees and conjugacy class sizes of finite groups, *Adv. Math.*, 328 (2018), 356-366. (with Guohua Qian)
56. The analog of Huppert's conjecture on character codegrees, *J. Algebra*, 478 (2017), 215-219. (with Guohua Qian)
57. Abelian quotients and orbit sizes of solvable linear groups, *Israel J. Math.*, 211 (1) (2016), 23-44. (with Thomas Keller)
58. Blocks of small defect, *J. Algebra*, 429 (2015), 192-212.
59. Nonsolvable groups with no prime dividing three character degrees, *J. Algebra*, 436 (2015), 145-160. (with Guohua Qian)
60. Regular orbits and $p$-regular orbits of solvable linear groups, *J. Algebra*, 398 (2014), 509-518. (with Thomas Keller)

61. Large orbits of subgroups of solvable linear groups, *Israel J. Math.*, 199 (2014), 345-362.
62. Large orbits of solvable group on characters, *Israel J. Math.*, 199 (2014), 933-940. (with Thomas Keller)
63. Large orbits of odd-order subgroups of solvable linear groups, *J. Algebra*, 351 (2012), 220-234.
64. Regular orbits of nilpotent subgroups of solvable linear groups, *J. Algebra*, 325 (2011), 56-69.
65. Large character degrees of solvable 3'-groups, *Proc. AMS*, 139 (2011), 3171-3173.
66. Regular orbits of finite primitive solvable groups, II, *J. Algebra*, 341 (2011), 23-34.
67. Regular orbits of finite primitive solvable groups, *J. Algebra*, 323(2010), 2735-2755.
68. Orbits of the actions of finite solvable groups, *J. Algebra*, 321 (2009), 2012-2021.

*Undergraduate Students Advised (Total 37, 21 have joined a PhD program)*

REU mentor for Karam Aldahleh, Alan Kappler, Neil Makur, summer 2025.

REU mentor for Andrew Butler, Ricard Li, David Martinez, Cecilia Sun, summer 2024.

REU mentor for Anakin Dey, Kolton O'Neal, Duc Van Khanh Tran, Camron Upshur, summer 2023.

REU mentor for Neelam Akula, Mallory Dolorfino, Matthew Lideros, Luke Martin, Kawika O'Connor, Zachary Slonim, Yuxuan Sun, summer 2022.

REU mentor for Michael Gintz, Matthew Kortje, Megan Laurence, Zili Wang, Awildo Gutierrez, Yuqiao Huang, Duncan Peckham, Roma Maya, Plotnick Wen, Kissinger Shane, Ziyu Huang, summer 2021.

REU mentor for Chris Florez, Jonathan Higgins, Kyle Huang, David Shen, summer 2020.

REU mentor for Alexander Betz, Max Chao-Haft, Ting Gong, Anthony Ter-Saakov, summer 2019.

*Graduate Students Advised (Total 9)*

Advisor for Holly Tidwell, spring 2023 – fall 2024, Master in Mathematics

Advisor of Mengtian Zhang, fall 2023 – present, Master in Mathematics

Advisor of Mengxi You, fall 2023 – present, Master in Mathematics

Advisor of Xia Xu, fall 2022 – present, Master in Mathematics

Advisor of Fang Bian, fall 2021 – spring 2024, Master in Mathematics, currently faculty at China Kashi University

Advisor of Xuning Zhang, fall 2021 – spring 2024, Master in Mathematics, currently a high school teacher

Advisor of Yinling Gao, fall 2019 – spring 2022, Master in Mathematics, currently faculty at China Three Gorges University

Advisor of Wanting Li, fall 2019 – spring 2022, Master in Mathematics, currently a high school teacher

Advisor of Gabriela Lara, fall 2017 – spring 2019, Master in Mathematics, currently a PhD student at Iowa State U

*Post-docs Advised (Total 4)*

Mentor for Dr. Yang Liu, 2020-2022, currently an Associate Professor at Tianjin Normal U

Mentor for Dr. Hongfei Pan, 2019-2020, currently an Associate Professor at Huaiyin Normal U

Mentor for Dr. Jinbao Li, 2017-2018, currently a Professor at Suqian College

Mentor for Dr. Yanxiong Yan, 2017-2018, currently an Associate Professor at Southwest U

*Funded External Grants and Contracts (Total 1.3million as PI)*

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| NSF REU Site: Algebra, Combinatorics, and Statistics, #2447229 (PI), $271,568 | 2025-2028 |
| NSA REU Site: Algebra, Combinatorics, and Statistics (PI), $88,890 | 2025-2026 |
| NSF Zassenhaus Groups and Friends Conference 2024, #2346615 (PI), $18,000 | 2023-2024 |
| NSA Grant: #H98230-24-1-0042 (PI), $83,964 | 2024-2025 |
| NSF China-US Group Theory Summit 2024, #2317056 (PI), $20,562 | 2023-2024 |
| Simons Collaboration Grant for Mathematicians (PI),#918096, $42,000 | 2022-2027 |
| NSA REU Site: #H98230-22-1-0022 (PI), $68,000 | 2022-2023 |
| NSF REU Site: Algebra, Combinatorics, and Statistics, #2150205 (PI), $311,417 | 2022-2026 |
| NSA REU Site #H98230-21-1-0333 (PI), $88,137 | 2021-2023 |
| AMS-Fan Fund China Exchange Programs (PI), $18,300 | 2018-2023 |
| NSF China-US Group Theory Summit 2019, #1903127 (PI), $15,000 | 2018-2019 |
| NSF REU Site: Algebra, Combinatorics, and Statistics, #1757233 (PI), $269,696 | 2018-2023 |
| Simons Collaboration Grant for Mathematicians #499532 (PI), $42,000 | 2017-2022 |
| AMS-Simons Travel Grant (PI), $4,800 | 2012-2015 |

*Professional activities*

- Program Director, REU Site: Algebra, Combinatorics, and Statistics 2018-2025
- AMS JMM Travel Grants Committee 2019-2022
- Lead Conference Organizer: Zassenhaus Groups and Friends Conference, May 31-June 2, 2024, Texas State University, USA. (25 talks, about 50 participants)
- Lead Conference Organizer: *China-US Group Theory Summit 2024*, Feb 22-25, 2024, University of Florida, USA. (20 talks, about 50 participants)
- Lead Conference Organizer: *Tianyuan International Workshop on Groups and Representations and the Applications*, Nov 2022, China. (20 talks, about 80 participants)
- Lead Conference Organizer: *China-US Group Theory Summit 2019*, August 22-25, 2019, Texas State University, USA. (34 talks, 50 participants)
- Lead Conference Organizer: *2018 International Workshop on Groups, Representations and Related Topics*, May 17-21, 2018, Chongqing, China. (50 talks, 140 participants)
- Editor of the *Bulletin of the Iranian Mathematical Society* 2019-2022
- Editor of the *Involve* 2025-
- Referee for the following journals: *J. Algebra, Mathematische Zeitschrift, Israel J. Math., Proceedings of the AMS, Royal Society of Edinburgh: Proceedings A, Finite Fields and their Applications, J. Group Theory, Communications in Algebra, J. Algebra and its Applications, American Math. Monthly, Turkish J. Math, Experimental Mathematics.*