

Zhaoqing Xu

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- Research Areas** Computational/Applied Mathematics.
(modeling, numerical analysis, and scientific computing with applications to phase-field models, interfacial dynamics)
- Education**
- Ph.D. in Mathematics* 2021–2027 (expected)
Department of Mathematics, University of South Carolina
Advisor: Prof. Xiaofeng Yang
- M.S. in Mathematics* 2019–2021
Department of Mathematics, Southern University of Science and Technology
Advisor: Prof. Jiang Yang
- B.S. in Mathematics and Applied Mathematics* 2015–2019
Department of Mathematics, Southern University of Science and Technology
Advisor: Prof. Jiang Yang
- Publications**
1. Jianan Li, **Zhaoqing Xu**, Jiang Yang, and Xiaofeng Yang. “Efficient, decoupled, second- and third-order Implicit-Explicit Runge–Kutta schemes with original-form energy stability for the anisotropic phase-field dendritic growth model.” **SIAM Journal on Scientific Computing (SISC)**, 48(2), B233–B261, 2026. (Co-first author)
 2. **Zhaoqing Xu**, Jianan Li, Jiang Yang, and Xiaofeng Yang. “Dihedral-Symmetry-Preserving and Energy-Stable Spectral Schemes for the Two-Dimensional Anisotropic Phase-Field Dendritic Growth Model.” Under review at **Computer Methods in Applied Mechanics and Engineering (CMAME)**, 2026. (Co-first author)
 3. Jianan Li, Tao Tang, **Zhaoqing Xu**, and Jiang Yang. “Unconditional Original Energy-Dissipative and MBP-Preserving Second-Order IMEX-RK Schemes for the Allen–Cahn Equation with Degenerate Mobility.” Submitted to **SIAM Journal on Numerical Analysis (SINUM)**, 2026.
- Manuscripts in Preparation**
1. Alina Chertock, Changhui Tan, and **Zhaoqing Xu**. “A Sticky Particle Method for the Euler-Alignment System.” Manuscript in preparation.
 2. **Zhaoqing Xu**, Lili Ju, and Xiaofeng Yang. “Symmetrized Transferable Neural Network Collocation Methods for the Allen–Cahn and Cahn–Hilliard Equations.” Manuscript in preparation.
- Honors and Awards**
- Outstanding Student Award, Summer School on Scientific Computing, Xiangtan University, Summer 2024 (Group Leader of the second-place team).
 - George Johnson Graduate Fellowship in Computational Mathematics, University of South Carolina, 2022–2023.

- Outstanding First Year Graduate Student, Department of Mathematics, University of South Carolina, 2021–2022.
- National Encouragement Scholarship, SUSTech, 2018.
- Freshmen Scholarship, SUSTech, 2015.

Presentations

- **Contributed Talk**, *Efficient, decoupled, second- and third-order Implicit-Explicit Runge–Kutta schemes with original-form energy stability for the anisotropic phase-field dendritic growth model*, North American High Order Methods Conference (NAHOMCon), Santa Fe, NM, June 2026.

Academic Service

- President, SIAM Student Chapter, University of South Carolina, 2022–2026.
- Reviewer for *zbMATH Open*.

Teaching

- Precalculus, *Instructor* Fall 2026
- Calculus for Business and Social Science, *Instructor* Spring 2026
- Precalculus, *Instructor* Fall 2025
- Finite Mathematics, *Instructor* Fall 2024
- Calculus for Business and Social Science, *Instructor* Spring 2023
- Calculus II, *Teaching Assistant* Fall 2022
- Calculus I, *Teaching Assistant* Spring 2021–Spring 2022
- Numerical Solutions of PDEs, *Teaching Assistant* Spring 2020
- Calculus II, *Teaching Assistant* Fall 2019
- Partial Differential Equations, *Teaching Assistant* Fall 2018