YULIN ZHANG

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INTRODUCTION

I am currently a Ph.D candidate at the School of Mathematical Sciences and Institute of Natural Sciences, Shanghai Jiao Tong University, majoring in computational mathematics.

My advisors are Prof. Wenjun Ying and Prof. Weizhu Bao. My research mostly focus on the computational methods and analysis for geometric flows.

EDUCATION

- **SHANGHAI JIAO TONG UNIVERSITY** — Shanghai, China
  Ph.D candidate, Computational Mathematics — *Sep 2021 - 2026 (in progress)*
  Advisor: Wenjun Ying & Weizhu Bao.

- **NATIONAL UNIVERSITY OF SINGAPORE** — Singapore
  Visiting Ph.D student, Computational Mathematics — *Nov 2023 - Oct 2025 (in progress)*
  Advisor: Wenjun Ying & Weizhu Bao.

- **JILIN UNIVERSITY** — Jilin, China
  B.Sc., Pure and Applied Mathematics — *Sep 2017 - Jun 2021*

RESEARCH INTEREST

- **Geometric Flows**:
  Computational methods and analysis for geometric flows, solid-state dewetting.

- **Multiscale Modeling**:
  Multiscale modeling, simulation and applications; phase-field model and interface problems in material sciences.

- **Scientific Computing**:
  Numerical analysis, scientific computing and applied mathematics in general.

PUBLICATION LIST

3. Yifei Li, Wenjun Ying, **Yulin Zhang**. **A structure-preserving parametric finite element method with optimal energy stability condition for anisotropic surface diffusion**, arXiv:2501.16660, submitted.

2. Fuchang Huo, Weilong Mo, **Yulin Zhang**. **A locking-free conforming discontinuous Galerkin finite element method for linear elasticity problems**, *J. Comput. Appl. Math.*, **Vol** 465 (2025), article 116582.

1. **Yulin Zhang**, Yifei Li, Wenjun Ying. **A stabilized parametric finite element method for surface diffusion with an arbitrary surface energy**, *J. Comput. Phys.*, **Vol** 523 (2025), article 113695 (arXiv:2404.02083).

VISITING POSITION

- **National University of Singapore** — Singapore
  Visiting PhD student — *Nov 2023 - Oct 2025*
  - **Host**: Weizhu Bao.
  - **Topic**: Computational methods and analysis for geometric flows.

- **Jilin University** — Changchun, China
  Visiting PhD student — *Mar 2023 - Apr 2023*
  - **Host**: Ran Zhang, Qilong Zhai.
  - **Topic**: Conforming discontinuous Galerkin finite element method.

HONORS AND AWARDS

- SJTU Outstanding teaching assistant award — 2022 spring

- SJTU Zhiyuan honors doctoral program — 2021 fall - 2026 (in progress)

- JLU Tang Aoqing honors program in maths (Mount Qomolangma Project) — 2017 fall - 2021 summer

Professional Service

- **Journal Reviewer**: t.b.a

Talks and Seminars

SJTU-NUS PhD Forum for Mathematics   Nov 2024, Singapore.

Languages

Chinese (native), English.
Python, Matlab, Wolfram Mathematica.