Zhonggan Huang

Email: zhonggan@math.utah.edu
Date of Birth: April 17, 1998
Supervisor: William Feldman

Research Interests

Partial Differential Equations–parabolic and elliptic equations, homogenization theory, free boundary problems

Education

University of Utah — Salt Lake City, U.S.
PhD of Pure Mathematics — 2021–Current
- Expected July, 2026

Southern University of Science and Technology — Shenzhen, China
Master of Pure Mathematics — 2019–2021
- Thesis: "Topics on reaction-diffusion equations with large diffusion rate within thin components"

Southern University of Science and Technology — Shenzhen, China
Bachelor of Mathematics and Applied Mathematics — 2015–2019
- Thesis: "Review of the model about fast diffusion on a road in a large field using effective boundary conditions"

Preprints

1. **Regularity theory of a gradient degenerate Neumann problem**, joint with William Feldman, arXiv preprint arXiv: 2406.06614 (2024)

1. **Is Mean Curvature Flow a Gradient Flow?** arXiv preprint arXiv: 2212.03701 (2022). (to appear on: *Proc. of AMS*)

Publications

1. **Homogenization of Enhancing Thin Layers,** Journal of Differential Equations, Volume 282, 2021, Pages 330-369, ISSN 0022-0396, https://doi.org/10.1016/j.jde.2021.02.024.

Seminars and Short Courses

- **Summer School on PDEs and Randomness** at Max Planck Institute, Leipzig, 2023
  Website: https://www.mis.mpg.de/calendar/conferences/2023/randompde.html
- **Summer Program in Partial Differential Equations** at UT Austin, 2022
  Website: https://analysispde.ma.utexas.edu/summer-program-in-partial-differential-equations-2022/
- **PIMS-IFDS-NSF Summer School on Optimal Transport** at UW Seattle, 2022
  Website: https://kantorovich.org/event/2022-optimal-transport-summer-school/
- **Large Deviation Principle and Optimal Transport** at UofU, 2022
  Reference materials:
- **17-th Summer School on PDEs** at Jilin University, 2019
  Short Courses: fractional Laplacians, General Relativity, Special Lagrangian Equations