Wei Wang

Curriculum Vitae

Education

Sept. 2022–Present **Ph.D. in Theoretical Mathematics**, *Peking University*, Beijing, PRC
- Advisor: Prof. Zhifei Zhang

June–Sept. 2021 **Summer Research Program**, *The Hong Kong University of Science and Technology*, Hong Kong, PRC
- Advisor: Prof. Tianling Jin
- Topics: Properties of regional fractional Laplacian operators

Sept. 2018–June 2022 **B.S. in Mathematics and Applied Mathematics**, *Zhejiang University*, Hangzhou, Zhejiang, PRC
- Advisor: Prof. Ting Zhang
- Thesis Title: Homogenization Problem of Second Order Elliptic Systems with Lower Order Terms

Research Interests

Calculus of variations, geometric measure theory, elliptic equations, and parabolic equations

Publications

[1] H. Fu, H. Wang, and W. Wang, Uniform estimates of Landau-de Gennes minimizers in the vanishing elasticity limit with line defects, *arXiv preprint arXiv: 2508.01811*

[2] H. Fu, H. Wang, and W. Wang, Improved convergence of Landau-de Gennes minimizers in the vanishing elasticity limit, *arXiv preprint arXiv: 2507.14955*

[3] W. Wang, W. Wang, and Z. Zhang, Existence of weak solutions for two-phase matrix-valued harmonic map flows, *arXiv preprint arXiv: 2506.16278*

[4] H. Fu, W. Wang, K. Wu, and Z. Zhang, Stratification and rectifiability of harmonic map flows via tangent measures, *arXiv preprint arXiv: 2504.14880*.

[5] R.L.Frank, T. Jin, and W. Wang, On the sharp constants in the regional fractional Sobolev inequalities, *Partial Differential Equations and Applications*, **6** (2025), 1-20.

[6] W. Wang and Z. Zhang, Fine structure of rupture set for semilinear elliptic equations with singular nonlinearity, *arXiv preprint arXiv: 2411.16048*, (2024).

[7] H. Fu, W. Wang, and Z. Zhang, Quantitative stratification and sharp regularity estimates for supercritical semilinear elliptic equations, *arXiv preprint arXiv: 2408.06726*, (2024).

[8] W. Wang and Z. Zhang, Landau-de Gennes model with sextic potentials: asymptotic behavior of minimizers, *arXiv preprint arXiv: 2404.00677*, (2024).

[9] W. Wang, Uniform estimates of resolvents in homogenization theory of elliptic systems, *Journal of Differential Equations*, **370** (2023), 1-65.

[10] W. Wang and T. Zhang, Homogenization theory of elliptic systems with lower order terms in dimension two, *Communications on Pure and Applied Analysis*, **22** (2023), 787-824.

Honors and Awards

Apr. 2025 **1st Prize, Graduate Research Exhibition**, *Peking University*, Beijing, PRC

Apr. 2024 **3rd Prize, Graduate Research Exhibition**, *Peking University*, Beijing, PRC

Oct. 2023 **Excellent Mathematics Graduate Student**, *Peking University*, Beijing, PRC

Aug. 2022 **Nomination Award, ICCM Creative Undergraduate Thesis**, *Southeast University*, Nanjing, Jiangsu, PRC

June 2022 **Outstanding Graduate Student**, *Zhejiang University*, Hangzhou, Zhejiang, PRC

June 2022 **Honored Degree, Chu Kochen College**, *Zhejiang University*, Hangzhou, Zhejiang, PRC

Talks and Presentations of the Research

Aug. 2025 **Conference on Theory and Computation of Liquid Crystal**, *NanKai University*, Tianjin, PRC

June 2025 **PDE Seminar**, *Zhejiang University*, Zhejiang, PRC

Apr. 2025 **Graduate Research Exhibition**, *Peking University*, Beijing, PRC

Dec. 2024 **PDE Seminar**, *Peking University*, Beijing, PRC

Apr. 2024 **Graduate Research Exhibition**, *Peking University*, Beijing, PRC

Aug. 2022 **ICCM Creative Undergraduate Thesis**, *Southeast University*, Nanjing, Jiangsu, PRC

Teaching and Teaching Assistant Experience

PKU

Fall 2025 TA, Advanced Mathematics (C) (I)

Spring 2025 TA, Advanced Mathematics (B) (II)

Fall 2024 TA, Advanced Mathematics (A) (I)

Spring 2024 TA, Advanced Mathematics (B) (II)

Fall 2023 TA, Harmonic Analysis

Spring 2023 TA, Functional Analysis (I)

Fall 2022 TA, Advanced Mathematics (C) (I)

ZJU

Spring 2022 TA, Mathematical Analysis (II)

Fall 2021 TA, Mathematical Analysis (I)