

# Wei WANG

## Curriculum Vitae

Yiheyuan Rd, 20th Building, Peking University  
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### Education

- 2022–present **Ph.D in Theoretical Mathematics**, *Peking University*, Beijing, China  
**Advisor:** Prof. Zhifei Zhang
- June.–Sept. 2021 **Summer Research Program**, *The Hong Kong University of Science and Technology*, HongKong, China  
**Advisor:** Assoc Prof. Tianling Jin
- 2018–2022 **B.S. in Mathematics and Applied Mathematics**, *Zhejiang University*, Hangzhou, Zhejiang, China  
**Advisor:** Prof. Thing Zhang  
**Thesis Title:** Homogenization Problem of Second Order Elliptic Systems with Lower Order Terms

### Research Interests

Geometric Variational problems, liquid crystal models, harmonic maps, elliptic equations, parabolic equations, and harmonic heat flows

### Publications and Preprints

- 2024 ○ W. Wang, and Z. Zhang, Fine structure of rupture set for semilinear elliptic equation with singular nonlinearity, *arXiv preprint arXiv: 2411.16048*  
○ H. Fu, W. Wang, and Z. Zhang, Quantitative stratification and sharp regularity estimates for supercritical semilinear elliptic equations, *arXiv preprint arXiv:2404.00677*  
○ W. Wang and Z. Zhang, Landau-de Gennes model with sextic potentials: asymptotic behavior of minimizers, *arXiv preprint arXiv:2404.00677*  
○ R.L. Frank, T. Jin, and W. Wang, On the sharp constants in the regional fractional Sobolev inequalities, *arXiv preprint arXiv:2403.00357*
- 2023 ○ W. Wang, Uniform estimates of resolvents in homogenization theory of elliptic systems, *Journal of Differential Equations*, **370** (2023), 1-65  
○ W. Wang and T. Zhang, Homogenization theory of elliptic system with lower order terms for dimension two, *Communications on Pure and Applied Analysis*, **22** (2023), 787-824

### Honors and Awards

- Apr. 2024 Third Prize at the Graduate Research Exhibition of the School of Mathematics  
Oct. 2023 Mathematics Graduate Student Excellence Program, Peking University

- Aug. 2022 Excellence Award of ICCM Creative Undergraduate Thesis
- June. 2022 Outstanding Graduate Student of Zhejiang University
- June. 2022 Honored Degree of Chu Kochen College, Zhejiang University
- Nov. 2021 Second Prize in the Exhibition of the Colloquium on "Questions and Conjectures"

## Seminars Organized

- Fall 2024 Reading Seminar on Geometric Measure Theory, Peking University
- Spring 2023 Reading Seminar on Papers about Harmonic maps by Aaron Naber and et al., Peking University
- Fall 2022 Reading Seminar on Elliptic Free Boundary Problems, Peking University

## Talks

- Dec. 2024 Seminar on Analysis and PDEs, Peking University
- Dec. 2024 Seminar on Geometric Measure Theory, Wuhan University
- Apr. 2024 Graduate Research Exhibition, Theoretic Mathematics, Peking University
- Aug. 2022 ICCM Creative Undergraduate Thesis, Southeast University

## Teaching and TA Experiences

### TA in *PKU*

- Fall 2024 Advanced Mathematics (A) (I)
- Spring 2024 Advanced Mathematics (B) (II)
- Fall 2023 Harmonic Analysis
- Spring 2023 Functional Analysis (I)
- Fall 2022 Advanced Mathematics (C) (I)

### TA in *ZJU*

- Fall 2021 Mathematical Analysis (I)