

# CURRICULUM VITAE

**Wei WANG**

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## Personal Data

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Date of birth: 2000/2/29.  
Gender: Male.  
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## Education and Studying Experiences

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**Ph.D** in Theoretical Mathematics  
Peking University, Beijing, P.R.China  
2022/9–present  
**Advisor:** Prof. Zhifei Zhang

**Summer Research Program**  
The Hong Kong University of Science and Technology, HongKong, P.R.China  
2021/6–2021/9  
**Advisor:** Prof. Tianling Jin

**B.S.** in Mathematics and Applied Mathematics  
Zhejiang University, Hangzhou, Zhejiang, P.R.China  
2018/9–2022/6  
**Advisor:** Prof. Thing Zhang  
**Thesis title:** Homogenization Problem of Second Order Elliptic Systems with Lower Order Terms

## Research Interests

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- **Research areas:** geometric variational problems, elliptic equations, and parabolic equations.
- **Some specific topics:** homogenization theory, semilinear elliptic and parabolic equations, harmonic maps, Liquid Crystal theory, and nonlocal Laplacian operators.

## Publications and Preprints

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1. Fine structure of rupture set for semilinear elliptic equation with singular nonlinearity.  
W. Wang and Z. Zhang, *arXiv preprint arXiv:2411.16048*.
2. Quantitative stratification and sharp regularity estimates for supercritical semilinear elliptic equations.  
H. Fu, W. Wang, and Z. Zhang, *arXiv preprint arXiv:2408.06726*.
3. Landau-de Gennes model with sextic potentials: asymptotic behavior of minimizers.  
W. Wang and Z. Zhang, *arXiv preprint arXiv:2404.00677*.

4. On the sharp constants in the regional fractional Sobolev inequalities.  
R.L. Frank, T. Jin, and W. Wang, *arXiv preprint arXiv:2403.00357*.
5. Uniform estimates of resolvents in homogenization theory of elliptic systems.  
W. Wang. *Journal of Differential Equations*, **370** (2023), 1-65.
6. Homogenization theory of elliptic system with lower order terms for dimension two.  
W. Wang and T. Zhang, *Communications on Pure and Applied Analysis*, **22** (2023), 787-824.

## Honors and Awards

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- Third Prize in the Graduate Research Exhibition at the School of Mathematical Sciences, Peking University, 2024/4.
- Mathematics Graduate Student Excellence Program, Peking University, 2023/10.
- Excellence Award of ICCM Creative Undergraduate Thesis, 2022/8.
- Outstanding Graduate Student of Zhejiang University, 2022/6.
- Honored Degree of Chu Kochen College, Zhejiang University, 2022/6.
- Second Prize in the Exhibition of the Colloquium on “Questions and Conjectures”, 2021/11.

## Seminars Organized

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- Reading Seminar on Geometric Measure Theory, Peking University, Fall 2024.
- Reading Seminar on Geometric Measure Theory and PDEs, Peking University, Fall 2023.
- Reading Seminar on Papers about Harmonic Maps, Peking University, Spring 2023.
- Reading Seminar on Elliptic Free Boundary Problems, Peking University, Fall 2022.

## Talks and Presentations

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- Year-End Seminar of PDEs Group, Peking University, Beijing, P.R.China, 2024/12/29.
- Seminar on Geometric Measure Theory and PDEs, Wuhan University, Wuhan, Hubei, P.R.China, 2024/12/3.
- Graduate Research Exhibition in Theoretic Mathematics, Peking University, Beijing, P.R.China, 2024/4/12.
- ICCM Creative Undergraduate Thesis, Southeast University, Nanjing, Jiangsu, P.R.China, 2022/8/2.

## Teaching and Teaching Assistant Experiences

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- Teaching Assistant, Advanced Mathematics (B) (II), Fall 2024, Peking University.
- Teaching Assistant, Advanced Mathematics (A) (I), Fall 2024, Peking University.
- Teaching Assistant, Advanced Mathematics (B) (II), Spring 2024, Peking University.
- Teaching Assistant, Harmonic Analysis, Fall 2023, Peking University.
- Teaching Assistant, Functional Analysis (I), Spring 2023, Peking University.
- Teaching Assistant, Advanced Mathematics (C) (I), Fall 2022, Peking University.
- Teaching Assistant, Mathematical Analysis (II), Spring 2022, Zhejiang University.
- Teaching Assistant, Mathematical Analysis (I), Fall 2021, Zhejiang University.