

# Yixuan Wang (Roy)

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Applied and Comput. Math., Caltech, Pasadena, CA 91125

## EDUCATION BACKGROUND

### Peking University

B.S., School of Mathematics, Peking University, Beijing, China 2016—2020  
Elite Undergraduate Training Program in Applied Math and in Pure Math, Excellent Graduate  
Overall GPA: **3.84/4**, Rank: 7/200, Major GPA: **3.91/4**, GRE (**166+170+4.5**), TOEFL (**112**)  
Graduation Date: 2020.07 **Summa Cum Laude in Beijing**

Summer Intern at **Caltech** on multiscale problems, supervised by Prof. Thomas Hou 2019

### Beijing International Center for Mathematical Research (BICMR)

Research Assistant, Hosted by Prof. Ruo Li, Prof. Zhenfu Wang, and Prof. Zhennan Zhou 2020—2021  
BICMR, Peking University, Beijing, China

### California Institute of Technology

Graduate Student, Applied + Computational Mathematics, supervised by Prof. Thomas Hou 2020—  
Department of Computing + Mathematical Sciences, Caltech, Pasadena, California

## PUBLICATIONS

- R. Li, Y.L Wang and **Y.X. Wang**. (2018) Approximation to Singular Quadratic Collision Model in Fokker-Planck-Landau Equation, SIAM Journal on Scientific Computing, 42(3), 2020, pp. B792-B815.
- Y. Chen, T.Y. Hou and **Y. Wang**. (2020) Exponential Convergence for Multiscale Linear Elliptic PDEs via Adaptive Edge Basis Functions, Multiscale Modeling and Simulation, 19(2), 2021, pp. 980–1010.
- Z. Liu, S. Qian, **Y. Wang**, Y. Yan and T Yang. (2020) Schrödinger principal-component analysis: On the duality between principal-component analysis and the Schrödinger equation, Physics Review E, 104(2), 2021, 025307.
- Y. Chen, T.Y. Hou and **Y. Wang**. (2020) Exponentially convergent multiscale methods for high frequency heterogeneous Helmholtz equations, submitted to SIAM Journal on Numerical Analysis.

## INVITED TALKS

- Model reduction for FPL equation, Forum of elite Ph. D. program, Peking University, November 2018
- Hermite spectral method for kinetic equations, CSAIM's students' forum, Tsinghua, December 2018
- Oversampling edge basis for Helmholtz equations, CSAIM's annual meeting, Foshan, September 2019
- Multiscale basis for Helmholtz equation, Workshop on Complex Fluids, CSRC, November 2019
- Exponential convergence for Helmholtz equations, ACM lunch seminar, Peking University, May 2021

## AWARDS AND HONORS

- Silver Award at 56th International Mathematical Olympiad, 2016
- All Three 2<sup>nd</sup> Places in Analysis, Applied Math, and Overall Individual Competitions, S.-T. Yau College Mathematics Contests, 2019
- 1<sup>st</sup> Place in Team Competition, S.-T. Yau College Mathematics Contests, 2019
- 1<sup>st</sup> Prize in National University Math Competition, 2017
- 1<sup>st</sup> Prize in National University Math Modeling Competition, 2017
- 1<sup>st</sup> Place in Citadel Datathon, China, 2018
- National Scholarship, 2017-2018
- Representative of PKU for National Scholarship, 2018-2019
- PKU Person of the Year, 2019
- PKU May 4<sup>th</sup>-Award, 2020

## PERSONAL INFORMATION

- GRE (**166+170+4.5**), TOEFL (**112**)
- Proficient in Python, MATLAB, C, and C++
- Proficient in Chinese and English, fluent in French and Spanish, intermediate in Italian and German