

Yixuan Wang (Roy)

roywang@caltech.edu | (1) 6264609554

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**. (2021) Exponentially convergent multiscale methods for high frequency heterogeneous Helmholtz equations.
- Z. Liu, A. Stuart and **Y. Wang**. (2022) Second order ensemble Langevin method for sampling and inverse problems.

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
- Ensemble Hamiltonian Monte Carlo, EnKF workshop, Balestrand, Norway, May 2022

Mathematical Engagement

- Founding President of the SIAM Student Chapter at Caltech 2021—

AWARDS AND HONORS

- Silver Award at 56th International Mathematical Olympiad, 2016
- All Three 2nd Places in Analysis, Applied Math, and Overall Individual Competitions, S.-T. Yau College Mathematics Contests, 2019
- 1st Place in Team Competition, S.-T. Yau College Mathematics Contests, 2019
- 1st Prize in National University Math Competition, 2017
- 1st Prize in National University Math Modeling Competition, 2017
- 1st 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 4th-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, intermediate in Spanish and German