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

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

EXPERIENCE

Janestreet
Quant Trader Intern(HK) 2020.6-2020.9

PUBLICATIONS

- R. Li, Y. Wang and **Y. 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, to appear in Multiscale Modeling and Simulation.
- Z. Liu, A. Stuart and **Y. Wang**. (2022) Second order ensemble Langevin method for sampling and inverse problems.
- H. Maust, Z. Li, **Y. Wang,** D. Leibovici, O. Bruno, T.Y. Hou and A. Anandkumar. (2022) Fourier Continuation for Exact Derivative Computation in Physics-Informed Neural Operators, NeurIPS 2022, 3rd AI for Science workshop.
- Y. Chen, T.Y. Hou and **Y. Wang**. (2022) Exponentially Convergent Multiscale Finite Element Method, Communications on Applied Mathematics and Computation, 1-17, 2023.
- T.Y. Hou and **Y. Wang**. (2023) Blowup analysis for a quasi-exact 1D model of 3D Euler and Navier-Stokes

INVITED TALKS

- Model reduction for FPL equation, Forum of elite Ph. D. program, Peking University, Nov. 2018
- Hermite spectral method for kinetic equations, CSAIM students' forum, Tsinghua University, Dec. 2018
- Exponential multiscale basis for Helmholtz equations, CSAIM annual meeting, Foshan, Sep. 2019
- Exponential multiscale basis for Helmholtz equations, Workshop on Complex Fluids, CSRC, Nov. 2019
- Exponential multiscale basis for Helmholtz equations, ACM lunch seminar, Peking University, May 2021
- Ensemble Hamiltonian Monte Carlo, EnKF workshop, Balestrand, Norway, May 2022
- ExpMsFEM, Numerical Analysis seminar, University of Hong Kong, Sep. 2022
- Blowup for a quasi-exact 1D model of 3D Euler, Workshop on Fluids, Duke University, May. 2023
- ExpMsFEM, Minisymposium on rough PDEs, ICIAM at Waseda University, Tokyo, Japan, Aug. 2023

Mathematical Engagement

- Founding President of the SIAM Student Chapter at Caltech 2021—
- Member of DEI committee at Caltech 2022—

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, 2018, 2019
- Representative of PKU for National Scholarship, 2019
- PKU Person of the Year, 2019
- PKU May 4th-Award, 2020