
Appointments

- 2024–2025 **Member**, *Institute for Advanced Study*, Princeton, NJ
2022–2025 **L. E. Dickson Instructor**, *University of Chicago*, Chicago, IL
2017 **Visiting Scholar**, *Georgia Institute of Technology*, Atlanta, GA

Education

- 2017–2022 **Ph.D. in Mathematics**, *The University of Texas at Austin*, Austin, TX
Advisor: Luis Caffarelli and Alexis Vasseur
2013–2017 **B.Sc. in Mathematics and Applied Mathematics** (Honors Program), *Xi'an Jiaotong University*, China
2011–2013 **Special Class for the Gifted Young**, *Xi'an Jiaotong University*, China

Research Interests

Partial differential equations, fluid dynamics, Euler equation, Navier–Stokes equation.

Publications and Preprints

- [1] Alexis F. Vasseur and Jincheng Yang. Layer separation of the 3d incompressible Navier–Stokes equation in a bounded domain. *Comm. Partial Differential Equations*, 49(4):381–409, 2024. [arXiv:2303.05236](#), [doi:10.1080/03605302.2024.2346146](#).
- [2] Luhao Zhang, Jincheng Yang, and Rui Gao. A simple and general duality proof for Wasserstein distributionally robust optimization. *Oper. Res.*, 2024. Forthcoming. [arXiv:2205.00362](#).
- [3] Luhao Zhang, Jincheng Yang, and Rui Gao. Optimal robust policy for feature-based newsvendor. *Manag. Sci.*, 70(4):2315–2329, 2024. [OptOnline:18579](#). [doi:10.1287/mnsc.2023.4810](#).
- [4] Jincheng Yang. Vorticity interior trace estimates and higher derivative estimates via blow-up method. *arXiv e-prints*, 2023. [arXiv:2308.09350](#).
- [5] Alexis F. Vasseur and Jincheng Yang. Boundary vorticity estimates for Navier–Stokes and application to the inviscid limit. *SIAM J. Math. Anal.*, 55(4):3081–3107, 2023. [arXiv:2110.02426](#), [doi:10.1137/22m1503567](#).
- [6] Jincheng Yang, Luhao Zhang, Ningyuan Chen, Rui Gao, and Ming Hu. Decision-making with side information: a causal transport robust approach. *OptOnline e-prints*, 2022. [OptOnline:20639](#).
- [7] Jincheng Yang. Construction of maximal functions associated with skewed cylinders

generated by incompressible flows and applications. *Ann. Inst. H. Poincaré C Anal. Non Linéaire*, 39(4):793–818, 2022. [arXiv:2008.05588](#), [doi:10.4171/aihpc/20](#).

- [8] Alexis F. Vasseur and Jincheng Yang. Second derivatives estimate of suitable solutions to the 3D Navier-Stokes equations. *Arch. Ration. Mech. Anal.*, 241(2):683–727, 2021. [arXiv:2009.14291](#), [doi:10.1007/s00205-021-01661-4](#).
- [9] Zhiwu Lin, Jincheng Yang, and Hao Zhu. Barotropic instability of shear flows. *Stud. Appl. Math.*, 144(3):289–326, 2020. [arXiv:1801.00950](#), [doi:10.1111/sapm.12297](#).
- [10] Jincheng Yang and Zhiwu Lin. Linear inviscid damping for Couette flow in stratified fluid. *J. Math. Fluid Mech.*, 20(2):445–472, 2018. [arXiv:1610.08924](#), [doi:10.1007/s00021-017-0328-3](#).

Honors and Awards

- May 2022 Frank Gerth III Outstanding Dissertation Award, *UT Austin*
- Mar 2021 University Graduate Continuing Fellowship, *UT Austin*
- June 2020 Frank Gerth III Teaching Excellence Award, *UT Austin*
- Apr 2019 Senate of College Council’s TA of the Year, *UT Austin*
- June 2018 Frank Gerth III Graduate Excellence Award, *UT Austin*
- Oct 2016 Outstanding Student (The highest honor on campus, $\frac{1}{30000}$), *XJTU*
- Sept 2016 National Scholarship, *Ministry of Education, China*

Invited Talks

- May 2024 Recent Advances in Nonlinear Partial Differential Equations, *University of Minnesota*
- May 2024 SITE Research Center Talk Series, *New York University Abu Dhabi (zoom talk)*
- Mar 2024 AMS Spring Southeastern Sectional Meeting, *Florida State University*
- Feb 2024 Simons Turbulence Seminar, *Johns Hopkins University (zoom talk)*
- Nov 2023 Calderón-Zygmund Analysis Seminar, *University of Chicago*
- Nov 2023 PDE Seminar, *Purdue University*
- Oct 2023 Applied Mathematics and Statistics Seminar, *Johns Hopkins University*
- Oct 2023 8th Annual Meeting of the SIAM Central States Section, *University of Nebraska-Lincoln*
- Aug 2023 10th International Congress on Industrial and Applied Mathematics, *Waseda University (zoom talk)*
- Jul 2023 PDE and Applications Seminar, *Chinese Academy of Sciences*
- May 2023 Midwest PDE Seminar, *University of Notre Dame*
- Jan 2023 Calderón-Zygmund Analysis Seminar, *University of Chicago*
- Dec 2022 PDE and Applications Seminar, *Chinese Academy of Sciences (zoom talk)*
- Nov 2022 Analysis of Fluids and Related Topics, *Princeton University*
- Oct 2022 Informs Annual Meeting 2022, *Indianapolis*
- May 2021 AMS Spring Western Sectional Meeting, *San Francisco State University (zoom talk)*
- Mar 2021 AMS Spring Eastern Sectional Meeting, *Brown University (zoom talk)*

Teaching Experience

Instructor

- Spring 2024 Math 18500 – Mathematical Methods in the Physical Sciences III
Winter 2024 Math 27300 – Basic Theory of Ordinary Differential Equations
Spring 2023 Math 18500 – Mathematical Methods in the Physical Sciences III
Winter 2023 Math 20400 – Analysis in \mathbb{R}^n II
Fall 2022 Math 18500 – Mathematical Methods in the Physical Sciences III

Teaching Assistant

- Spring 2021 M383D – Methods of Applied Mathematics II
2019-2020 M427J – Differential Equations with Linear Algebra
Fall 2018 M427L – Advanced Calculus for Applications II
Spring 2018 M408D – Sequences, Series, and Multivariable Calculus
Fall 2017 M408K – Differential Calculus

Mentoring Undergraduate Students

- Spring 2024 Dante Strollo and Jakob Wellington, *on the topic of Fourier Analysis*
Spring 2024 Ariana Qin, *on the topic of Optimal Control Theory*
Fall 2021 Kyle Alkire, *on the topic of Schauder Theory in Elliptic Equations*
Spring 2020 Yongqi Pang, *on the topic of Statistics and Data Analysis*
Spring 2019 Trey Minor, *on the topic of Differential Equations and Dynamical Systems*
Spring 2018 Yan Cheng, *on the topic of Probability and Martingales*