

Curriculum Vitae

PERSONAL INFORMATION

Name: Huan Zhang
Birthday: Jun 21, 1997
Contact: huan.zhang@lmd.ipsl.fr
Mobile: 33 (0)772443732 & 1 9172936048
Address: 59b Bd Jourdan, Paris, 75014

EDUCATION

Courant Institute, New York University
Doctor of Philosophy, Mathematics 03/09/2019 - 15/05/2025
Dissertation: *Learning the tails of distributions and processes in physics*
Advisor: Jonathan Weare
Committee: Edwin Gerber, Benjamin Peherstorfer, Eric Vanden-Eijnden, Georg Stadler

Shanghai Jiao Tong University (SJTU)
Bachelor of Science, Physics (Zhiyuan Honors Program) 14/09/2015 - 01/06/2019
GPA: 3.92/4.30 (90.54/100), Ranking: 1/17

POSITIONS

Laboratoire de Météorologie Dynamique, École Normale Supérieure
Centre national de la recherche scientifique (CNRS)
Postdoctoral Associate (Advisor: Freddy Bouchet & Michael Ghil) 01/06/2025 -
Mathematics, statistical analysis and geophysical fluid dynamics in North Atlantic
Subpolar Gyre multi-decadal variability

PUBLICATIONS

- [1] **Zhang, Huan**, Webber, Robert J. Lindsey, Michael, Berkelbach, Timothy C. Weare, Jonathan. *Improved energies and wave function accuracy with Weighted Variational Monte Carlo (VMC)*. 2025. arXiv: 2507.01905 [physics.comp-ph].
- [2] **Zhang, Huan**, Chen, Yifan, Vanden-Eijnden, Eric, Peherstorfer, Benjamin. “Sequential-in-time training of nonlinear parametrizations for solving time-dependent partial differential equations”. In: *SIAM Review* (2025). to appear.
- [3] **Zhang, Huan**, Finkel, Justin, Abbot, Dorian S. Gerber, Edwin P. Weare, Jonathan. “Using Explainable AI and Transfer Learning to understand and predict the maintenance of Atlantic blocking with limited observational data”. In: *Journal of Geophysical Research: Machine Learning and Computation* 1.4 (2024), e2024JH000243. DOI: 10.1029/2024JH000243.
- [4] **Zhang, Huan**, Webber, Robert J. Lindsey, Michael, Berkelbach, Timothy C. Weare, Jonathan. “Understanding and eliminating spurious modes in variational Monte Carlo using collective variables”. In: *Physical Review Research* 5 (2 May 2023), p. 023101. DOI: 10.1103/PhysRevResearch.5.023101.
- [5] Young, Yuan-Nan, Gomez Herrera, Vicente, **Zhang, Huan**, Farhadifar, Reza, Shelley, Michael J. “Geometric model for dynamics of motor-driven centrosomal asters”. In: *Physical Review Research* 7.1 (2025), p. 013004. DOI: 10.1103/PhysRevResearch.7.013004.
- [6] Yan, Wen, **Zhang, Huan**, Shelley, Michael J. “Computing collision stress in assemblies of active spherocylinders: Applications of a fast and generic geometric method”. In: *The Journal of Chemical Physics* 150.6 (2019), p. 064109. DOI: 10.1063/1.5080433.
- [7] **Zhang, Huan**, Qiu, Lili, Hu, Dan. “Finite-Temperature Dimer Method for Finding Saddle Points on Free Energy Surfaces”. In: *Journal of Computational Chemistry* 40.18 (2019), pp. 1701–1706. DOI: 10.1002/jcc.25824.

CONFERENCES & WORKSHOPS	SIAM Conference on Computational Science and Engineering (CSE 25), Fort Worth.	<i>Mar. 2025</i>
	American Geophysical Union Fall Meeting, Washington, D.C. Poster.	<i>Dec. 2024</i>
	Geo. Sci. Special Seminar, University of Chicago. Talk.	<i>Nov. 2024</i>
	Rosshypalooza, University of Chicago.	<i>Jul. 2024</i>
	Emerging Risks from Concurrent, Compounding and Record-breaking Extreme Heat across Sectors, Columbia University.	<i>Jul. 2024</i>
	Shanghai Jiao Tong University. Talk.	
	Measure Transport, Diffusion Processes and Sampling Workshop, Flatiron Institute. Poster.	<i>Dec. 2023</i>
	American Geophysical Union Fall Meeting, Chicago. Poster.	<i>Dec. 2022</i>
	Modeling and Simulation Seminar, Courant Institute. Talk.	<i>Nov. 2022</i>
INVITED TALKS	SIAM UQ (SIAM Conference on Uncertainty Quantification), <i>Advances in MCMC Sampling Methods</i> , Minneapolis, Minnesota, U.S.	<i>Mar. 2026</i>
AWARDS	Moses A. Greenfield Research Prize, New York University	<i>May. 2023</i>
	Graduation with honor, Shanghai Jiao Tong University	<i>Jun. 2019</i>
	National Scholarship, Ministry of Education of China	<i>Sep. 2018</i>
	Academic Excellence Scholarship of Shanghai Jiao Tong University	<i>Sep. 2017</i>
TEACHING	Recitation leader, Honor Linear Algebra	<i>Fall. 2024</i>
	Recitation leader, Honor Numerical Analysis	<i>Spring. 2024</i>
	Recitation leader, Linear and Nonlinear Optimization	<i>Fall. 2023</i>
	Recitation leader, Linear and Nonlinear Optimization	<i>Spring. 2023</i>
	Grader, Monte Carlo Methods (Graduate level)	<i>Fall. 2022</i>
	Grader, Numerical Methods	<i>Fall. 2020</i>
COMPUTER SKILLS	Professional experiences in Python, JAX, MATLAB, $\text{\LaTeX}$, Julia, C, C++.	
LANGUAGES	English (fluent), Chinese (native)	