

# Wenjun Zhao

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CONTACT INFORMATION	Division of Applied Mathematics Brown University Room 219, 182 George Street Providence, RI 02906	<a href="mailto:wenjun_zhao@brown.edu">wenjun_zhao@brown.edu</a> <a href="https://wenjunzhaowo.github.io">https://wenjunzhaowo.github.io</a>
EMPLOYMENT	<b>Division of Applied Mathematics, Brown University</b> LFZ Assistant Professor of Applied Mathematics, July 2021-June 2024	
EDUCATION	<b>Courant Institute of Mathematical Sciences, New York University</b> M.Phil. , Atmosphere Ocean Science & Mathematics, Jan 2021 Ph.D. , Atmosphere Ocean Science & Mathematics, May 2021 <ul style="list-style-type: none"><li>• Advisor: Professor Esteban G. Tabak</li></ul> <b>School of the Gifted Young, University of Science and Technology of China</b> B.S. in Information and Computational Sciences, June 2016 <ul style="list-style-type: none"><li>• Advisor: Professor Yu-Hong Dai (Chinese Academy of Sciences)</li></ul>	
INTERNSHIP & VISITING	<b>Argonne National Laboratory, Mathematics and Computer Science Dept.</b> Wallace Givens Associate, June–Aug. 2020 <ul style="list-style-type: none"><li>• Mentor: Dr. Hong Zhang</li></ul> <b>University of Oxford, Department of Computer Science</b> Visiting student, May–Sept. 2015 <ul style="list-style-type: none"><li>• Mentor: Professor Alessandro Abate</li></ul>	
ADDITIONAL TRAINING	Science Communications Workshop, Aruthur L. Carter Journalism Institute, New York University, New York, USA. (Oct 2019)  NASA JPL-Caltech Summer School: Using Satellite Observations to Advance Climate Models, Pasadena, USA. (Aug 2018)	
RESEARCH INTERESTS	Optimal transport and its applications; Data analysis; Scientific machine learning; Theoretical and computational fluid dynamics.	
PUBLICATIONS	Tabak, E.G., Trigila, G. & Zhao, W., <i>The Conditional Barycenter Problem, its Data-Driven Formulation and its Solution through Normalizing Flows</i> , submitted.  Zhang, H. & Zhao, W., <i>PNODE: An Integrated Neural ODE Framework based on Discrete Adjoint Solvers</i> , in revision.  Zhao, W. <i>Sample-based Optimal Transport in Statistical Data analysis</i> , PhD Thesis.  Tabak, E.G., Trigila, G. & Zhao, W., <i>Distributional barycenter problem through data-driven flows</i> , Pattern Recognition (2022). .	

Tabak, E.G., Trigila, G. & Zhao, W., *Conditional density estimation and simulation through optimal transport*. Machine Learning (2020). <https://doi.org/10.1007/s10994-019-05866-3>.

Tabak, E.G., Trigila, G. & Zhao, W., *Data Driven Conditional Optimal Transport*.

- Shorter version: 33rd Conference on Neural Information Processing Systems (NeurIPS) OTML Workshop (2019). <https://arxiv.org/abs/1910.11422>
- Longer version: Tabak, E.G., Trigila, G. & Zhao, W. Machine Learning (2021). <https://doi.org/10.1007/s10994-021-06060-0>

CONFERENCES  
& WORKSHOPS

*Conditional optimal transport and its applications* (Talk), Physical Applied Mathematics and Data Science, ShanghaiTech University, Shanghai, China. (Jan 2020)

*Data Driven Conditional Optimal Transport* (Poster), NeurIPS Optimal Transport in Machine Learning Workshop, Vancouver, Canada. (Dec 2019)

SEMINAR  
TALKS

*Data-driven Wasserstein barycenter problem*, Leslie Comrie Seminar Series, University of Greenwich (Mar 30 2022)

*Optimal transport and beyond*, Math Slam, Brown University (Dec 2 2021)

*Data-driven Wasserstein barycenter problem*, LCDS & Pattern theory seminar, Brown University. (Oct 4 2021)

*Optimal transport with covariates and its applications*, APMA colloquium, Brown University. (Sept 23 2021)

*Barycentric Optimal Transport: algorithms and applications*, CAOS student seminar, New York University. (Nov 2020)

*Advanced Neural ODE Solver through PETSc*, Summer Argonne Students' Symposium 2020, Argonne National Laboratory. (Apr 2020)

*Conditional optimal transport and its applications*, CAOS student seminar, New York University. (Nov 2019)

*A simplified entrainment model based on shallow water equation*, CAOS student seminar, New York University. (Nov 2018)

*Conditional density estimation through optimal transport*, CAOS student seminar, New York University. (Dec 2017)

TEACHING  
EXPERIENCE

	Fall	2022	Instructor, Honors Statistical Inference I Enrollment: 38	Brown
	Spring	2022	Instructor, Essential Statistics Enrollment: 64	Brown
	Fall	2021	Instructor, Statistical Inference I Enrollment: 203	Brown
	Spring	2021	Recitation leader, Intro to Fluid Dynamics, Complex Variables	NYU
	Fall	2020	Grader, Linear Algebra for Data Science	NYU
	Spring	2020	Recitation leader, Introduction to Math Modeling	NYU
	Fall	2019	Recitation leader, Introduction to Math Modeling	NYU
	Spring	2019	Recitation leader, Ordinary Differential Equations	NYU
	Fall	2018	Substitute lecturer/Grader, Partial Differential Equations	NYU
	Fall	2015	Teaching assistant, Multivariable Calculus	USTC
HONORS AND AWARDS		2020	Nomination for Dean's Dissertation Fellowship, NYU	
		2019	NeurIPS travel award	
		2019	Moses A. Greenfield Research Prize, NYU Courant	
		2016–now	Henry MacCracken Fellowship, NYU	
		2015	Summer research fellowship at University of Oxford	
		2015	Meritorious Winner in Mathematical Contest of Modeling	
		2013	First prize in USTC Contest of Electromagnetics	
		2012–2016	China National Encouragement Scholarship	
RELEVANT SKILLS	Programming:		C, Java, MATLAB, Python, Mathematica, $\LaTeX$	
	Languages:		Mandarin (fluent), Japanese (familiarity)	
PROFESSIONAL ASSOCIATIONS			Nominee member, American Mathematical Society (AMS)	
			Regular member, Association for Women in Mathematics (AWM)	
			Student member, Society for Industrial and Applied Mathematics (SIAM)	
			Science Alliance Member, The New York Academy of Sciences (NYAS)	