

Laure Zanna

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🌐 goo.gl/79xWUF 🌐 https://zanna-researchteam.github.io/

Zanna is the Joseph B. Keller and Herbert B. Keller Professor of Applied Mathematics, at NYU, Courant Institute. Her research focuses on understanding, simulating and predicting the role of the ocean in climate on local and global scales. She combines theory, numerical simulations, statistics, and machine learning (ML) to tackle a wide range of problems in fluid dynamics and climate, including turbulence, multiscale modeling, ocean heat and carbon uptake, and sea level.

Professional Appointments

- 2019 – present ♦ **New York University, Courant Institute, USA.**
 - ♦ Joseph B. Keller and Herbert B. Keller Endowed Professor of Applied Mathematics, 2024-
 - ♦ Professor of Mathematics & Atmosphere/Ocean Science, 2020-.
 - ♦ Associate Professor (with tenure), 2019 - 2020.
- 2019 – present ♦ Affiliated Faculty, **New York University, Center for Data Science, USA.**
 - ♦ Visiting Professor of Physics, **University of Oxford**, Dept of Physics, UK.
- 2011 – 2020 ♦ Associate Professor/Lecturer (tenured 2016), **University of Oxford**, Physics, UK.
- 2009 – 2011 ♦ James Martin Research Fellow, Oxford Martin School & Dept of Physics and Junior Research Fellow, Balliol College. **University of Oxford**, UK.

Education

- 2009 ♦ **Ph.D., Harvard University.** Earth & Planetary Sciences. Adviser: Prof Eli Tziperman.
- 2003 ♦ **M.Sc. Weizmann Institute of Science.** Environmental Sciences.
- 2001 ♦ **B.Sc. Tel Aviv University.** Geophysics, Atmospheric & Planetary Sciences.

Selected Honors

- 2025 ♦ **Invited Annual Address**, AMS-SIAM Joint Annual Meeting, Montreal.
- 2024 ♦ **Presidential Lecture**, Simons Foundation.
- 2023 ♦ **Distinguished DeFord Lecture**, UT Austin.
- 2022 ♦ **Principal Lecturer**, Woods Hole Geophysical Fluid Dynamics Summer Program, Data-Driven GFD. (originally planned for 2020).
- 2020 ♦ **Nicholas P. Fofonoff Award**, American Meteorological Society. Citation: *"For exceptional creativity in the development and application of new concepts in ocean and climate dynamics."*
- 2018-2024 ♦ **Mercator Fellow**, Hamburg U., DFG, German Research Foundation.
- 2017-2018 ♦ **Visiting Research Scientist Fellowship**, Princeton University, AOS and GFDL.

Memberships

- ♦ American Geophysical Union (AGU), Lifetime Member; American Meteorological Society (AMetSoc); American Physical Society (APS). Society for Industrial and Applied Mathematics (SIAM)

Selected Service

Fellowship/Award	<ul style="list-style-type: none">◇ NOAA C&GC Postdoctoral Fellowship, Steering Committee Member, 2021-2024.◇ Schmidt Science Fellowship Panel Finalists Member, 2023-.◇ AMetSoc, Oceanic Research Awards Cmt Member 2021-24; Chair 2023-24.◇ Lorenz Lecture Award Member, AGU, Nonlinear Geophysics, 2018-2019.
Advisory Board &	<ul style="list-style-type: none">◇ CESM Advisory Board Member, since 2020.◇ NSF AI Institute AI2ES External Advisory Board Member, since 2020.◇ Ocean Model Development Panel Member, CLIVAR, 2020-2023
Editorial Work	<ul style="list-style-type: none">◇ Associate Editor, Science Advances, AAAS, 2024-.◇ Editor, Journal of Climate, American Meteorological Society, 2019-2023.◇ Guest Editor, JAMES, American Geophysical Union, 2021-2024.
Mentoring	<ul style="list-style-type: none">◇ ADVANCE Scholar Eminent External Mentor, Texas A&M University, 2022.◇ MPOWIR (Mentoring Physical Oceanography Women to Increase Retention), Senior Mentor.◇ Faculty Adviser, Association for Women in Mathematics, since 2022.
Reviewer	◇ Journal Articles : AMS, AGU, Nature, AAAS, Elsevier, MPDI, Royal Society Proposals : National Academies, Schmidt Futures/Sciences, Simons Foundation, NSF, NOAA, NERC, ISF, BSF, Irish Research Council, KAUST/ CRG.
Meetings Org.	<ul style="list-style-type: none">◇ NASEM's Workshop Planning Committee on Machine Learning and AI to Advance Earth System Science.◇ Member, Scientific Organizing Committee, Pattern Effect: Coupling of SST patterns, radiative feedbacks, and climate sensitivity. US CLIVAR, 2021-2022.◇ Session at AGU Fall (20, 19); EGU (20), Ocean Sciences (20, 14, 12), APS (18).
University	<ul style="list-style-type: none">◇ Chair and member of multiple faculty searches at NYU, since 2019◇ Lead, Climate Faculty Cluster Hire Initiative (Courant, Tandon, CDS), NYU.◇ PhD Advisory Group, Center for Data Science, NYU.

Advising

PhD Students	◇ Current : Gosha Geogdzhayev; Adam Subel ; Andrew Brettin. Graduated : Aurora Basinski (2024); Matthias Aengenheyster (2022); Thomas Bolton (2020); Robert Fraser (2018), Tomos David (2018); Ben Bronselaer (2015).
Postdocs	◇ Current : Renaud Falga, Jiarong Wu, Kelsey Everard, Fabrizio Falasca, Pavel Perezhogin. Alumns : 16 postdoc researchers or fellows.

Selected Active Grants

NSF + NOAA	◇ Climate Process Team : Ocean Transport and Eddy Energy, Lead PI (9 universities, 3 modeling centres), 2019-present
NSF	◇ Science and Technology Center - Learning the Earth with Artificial Intelligence and Physics. Led by Columbia University, with NYU, UCI, Minnesota, Teachers College.
Schmidt Sciences	◇ M²LInES - Multiscale Machine Learning In coupled Earth System Modeling. Lead PI (other institutions: Princeton, GFDL, Columbia, LDEO, MIT, NCAR, IPSL, IGE Grenoble), 2021-2026.