

Anna Lo Piccolo

Ph.D. Candidate
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EDUCATION

Ph.D. in Earth, Environmental and Planetary Sciences	2021 – Current
Brown University	
Thesis: <i>In progress</i>	
Advisor: Baylor Fox-Kemper	
M.S. in Earth, Environmental and Planetary Sciences	2021 – 2023
Brown University	
Advisors: Baylor Fox-Kemper and Christopher Horvat	
M.S. in Physics of the Earth System	2017 – 2021
University of Bologna	
Thesis: “Arctic ocean submesoscale brine driven eddies: modeling of a sea ice edge front”	
Advisor: Nadia Pinardi	
Co-Advisors: Christopher Horvat and Baylor Fox-Kemper	
Grade: 110/110 <i>cum laude</i>	
B.S. in Physics	2012 – 2016
University of Trento	
Grade: 108/110	

RESEARCH VISITS

Visiting Research Fellow	May 2023
Department of Physics, University of Auckland	
Advisor: Christopher Horvat	
Visiting Research Fellow	Nov 2019 – Mar 2020
Department of Earth, Environmental and Planetary Sciences, Brown University	
Advisors: Baylor Fox-Kemper and Christopher Horvat	

TEACHING AND OUTREACH

Teaching Assistant Fellow	Spring 2022
“EEPS1510 Introduction to Atmospheric Dynamics”, DEEPS, Brown University	
Undergraduate/graduate-level course	

Co-supervision

Spring 2025

Student Name: Spencer D. Francis

Primary Advisor: Baylor Fox-Kemper

Level: M.S. in Physics, Brown University

Outreach Activity

2023 – 2024

DEEPS CORES (Career Opportunities and Research in Earth Science), Brown University

At Hope High School, Providence

SOFTWARE LANGUAGES

Python, MATLAB, Fortran, C, LaTeX

OCEANOGRAPHIC FIELDWORK

Conducted CTD-based dissolved oxygen surveys in Narragansett Bay, Summer 2025

SCHOOLS

- ECCO summer school 2025, Pacific Grove, California, May 2025
- Southern Ocean Summer School (SOSS) 2024, Cargèse, Corsica, May 2024
- Institute of Computing for Climate Science (ICCS) Summer School, University of Cambridge, Sept 2022
- Atmosphere-Ocean-Sea-Ice (AOI) winter school, Longyearbyen, Svalbard, May 2022

INVITED TALKS

- “Submesoscale Eddy-Driven Transport of Tracers: from Dynamics to Parameterization”
Parcels Meeting lead by Erik van Sebille, Utrecht University, Dec 2025
- “Modeling submesoscale eddies in the wintertime Arctic Ocean”
CMCC, Bologna, 2021

CONFERENCES AND MEETINGS

- European Geophysical Union (EGU) General Assembly 2025, Vienna, Apr 2025
Talk presentation: “Parameterizing Entrainment Induced by Submesoscale Eddies”
- CPT Annual Meeting 2024, Brown University, Providence, Aug 2024
Talk presentation: “Parameterizing Entrainment and Subduction Induced by Submesoscale Processes”
- Ocean Sciences Meeting (OSM) 2024, New Orleans, Feb 2024
Talk presentation: “Submesoscale Parameterizations Have Not Been Evaluated for Entrainment”
- SASIP (Scale-Aware Sea Ice Project) annual meeting, Bergen, June 2023
Talk presentation: “Parameterizing Ocean Eddies at the Edge of Sea Ice Leads”
- SWOT AdAc Consortium Workshop, Brown University, Providence, Aug 2022
- SASIP (Scale-Aware Sea Ice Project) annual meeting, Grenoble, June 2022
Talk presentation: “Eddies at Leads”

- Gordon Research Seminar (GRS) and Gordon Research Conference (GRC) on Ocean Mixing, June 2022
Mount Holyoke College in South Hadley, Massachusetts, United States
Poster presentation: “Energetics and Transfer of Submesoscale Brine Driven Eddies at a Sea Ice Edge”
- Ocean Sciences Meeting (OSM) 2022, remote, Feb-Mar 2022
Poster presentation: “Energetics and Transfer of Submesoscale Brine Driven Eddies at a Sea Ice Edge”

PEER REVIEW SERVICE

Reviewer for *Journal of Physical Oceanography, Nature Communication, Geophysical Research Letters*

ADMINISTRATIVE EXPERIENCE

Student Representative at University of Bologna

2017 – 2019

EXTRACURRICULAR ACTIVITIES

- Unfiguring March 2024
Experiments in the practice of science and art, and interdisciplinary graduate student conference hosted by the Mahindra Humanities Center at Harvard University.
Projection of “Ocean Eddies: a Sensorial Experience”, documentary by Anna Lo Piccolo, Jacopo D’Angelo (he/him; Independent Musician), Francesco Fusaro (he/him; Independent Curator and Artist), Alex Gonzalez (he/him; Independent Artist), Elva Granados Escartin (she/her; Independent Artist).
- 2022 RI C-AIM Vis-a-thon Spring 2022
Arts-based program of science visualization at RISD.
Realization of “The Majesty of Sea Ice”, a textile artistic installation on the status of sea-ice in the Arctic Ocean.
- Volunteer at Geological Museum of Dolomites, Predazzo, Italy Summer 2017

PUBLICATIONS

- [1] Anna Lo Piccolo, Jacob O. Wenegrat, Genevieve J. Brett, and Baylor Fox-Kemper (n.d.). “A Parameterization for Entrainment Fluxes in Submesoscale-Active Mixed Layers”. In preparation
- [2] Anna Lo Piccolo, Christopher Horvat, and Baylor Fox-Kemper (2024). “Energetics and Transfer of Submesoscale Brine-Driven Eddies at a Sea Ice Edge”. In: *Journal of Physical Oceanography* 54.7, pp. 1489–1501. DOI: 10.1175/JPO-D-23-0147.1
- [3] Samuel Brenner, Christopher Horvat, Paul Hall, Anna Lo Piccolo, Baylor Fox-Kemper, Stéphane Labb  , and V  ronique Dansereau (2023). “Scale-Dependent Air-Sea Exchange in the Polar Oceans: Floe-Floe and Floe-Flow Coupling in the Generation of Ice-Ocean Boundary Layer Turbulence”. In: *Geophysical Research Letters* 50.23. e2023GL105703 2023GL105703, e2023GL105703. DOI: <https://doi.org/10.1029/2023GL105703>