

Jacob Steinberg

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EDUCATION

University of Washington Ph.D. in Physical Oceanography, Advisor: Charles Eriksen – Thesis: “Eddy Vertical Structure and Variability: vortex evolution and the geography of geostrophic turbulence”	Seattle, WA 2013 –2020
University of Washington M.S. in Applied Mathematics	Seattle, WA 2016
University of Washington M.S. in Physical Oceanography	Seattle, WA 2016
University of Maryland B.S. in Civil and Environmental Engineering, Magna Cum Laude (minor: project management)	College Park, MD 2009 –2013

PUBLICATIONS

- [1] J. Steinberg and C. Eriksen, “Glider Sampling Simulations in High-Resolution Ocean Models”, *Journal of Atmospheric and Oceanic Technology*, vol. 37, pp. 975–992, 2020.
- [2] J. Steinberg and C. Eriksen, “Observed Evolution of a California Undercurrent Eddy”, *Journal of Physical Oceanography*, vol. 49, pp. 649–674, 2019.
- [3] N. Pelland, J. Bennett, J. Steinberg, and C. Eriksen, “Automated Glider Tracking of a California Undercurrent Eddy Using the Extended Kalman Filter”, *Journal of Physical Oceanography*, vol. 49, pp. 2241–2264, 2018.

Prior Work

Bricker, S.B. and Grizzle, R. and Trowbridge, P. and Rose, J.M. and Ferreira, J.G. and Wellman, K. and Zhu, C. and Galimany, E. and Saurel, C. and Landeck-Miller, R. and Wands, J. and Rheault, R. and **Steinberg, J.M.** and Jacob, A. and Davenport, E.D. and Ayvazian, S. and Chintala, M. and Tedesco, M.A.. “Bioextractive Removal of Nitrogen by Oysters in Great Bay Piscataqua River Estuary, New Hampshire, USA”. *Estuaries and Coasts*, 43:23, 2020.

Bricker, S.B. and Ferreira, J.G. and Zhu, C. and Rose, J.M. and Galimany, E. and Wikfors, G. and Saurel, C. and Landeck-Miller, R. and Wands, J. and Trowbridge, P. and Grizzle, R. and Wellman, K. and Rheault, R. and **Steinberg, J.M.** and Jacob, A. and Davenport, E.D. and Ayvazian, S. and Chintala, M. and Tedesco, M.A.. “Role of Shellfish Aquaculture in the Reduction of Eutrophication in an Urban Estuary” *Environmental Science and Technology*, 52:173-183, 2018.

RESEARCH AND FIELDWORK EXPERIENCE

Research Interests: mesoscale turbulence, energy cascades, deep observations, surface expression of interior motions, AUV development

Woods Hole Oceanographic Institution Postdoctoral Investigator – Member of the Ocean Transport and Eddy Energy Climate Process Team. Focus on the synthesis of observational data analyzed in a scale-aware consistent manner to improve mesoscale eddy representation and parameterization in various climate models. Joint analysis of observational and model data	Woods Hole, MA May 2020 –
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University of Washington

Research Assistant

Seattle, WA

August 2013 – March 2020

- Employed Seaglider and Deepglider autonomous underwater vehicles to study ocean eddy structure, evolution, and decay. Research interests: geostrophic turbulence and energy cascades.
- Fieldwork: Deployment, piloting, and recovery experience from over one dozen Seaglider/Deepglider multi-month missions in the Northeastern Pacific and North Atlantic.

University of Delaware

Research Experience for Undergraduates: Intern

Lewes, DE

Summer 2012

- product: “Laboratory Investigation of Sea Spray as Produced by Wind and Breaking Waves”

N.O.A.A.

Data Analyst / Intern

Silver Spring, MD

2011-2013

TEACHING

- **Teaching Assistant** at the University Washington Winter 2018-2019, 2019-2020
Geophysical Fluid Dynamics (OCN 512)
Lectured as well as organized and carried out experiments in the UW GFD lab.
- **Teaching Assistant** at the University Washington Fall 2017
Physics Across Oceanography: Fluid Mechanics and Waves (OCN 285)
- **Teaching Assistant** at the University Washington Fall 2015
Introduction to Fluid Mechanics (OCN 511)
- **Field Instructor** at the Ocean Inquiry Project 2014-2019
Instructed/led students in the collection and interpretation of oceanographic measurements in Puget Sound.

CONFERENCES & PRESENTATIONS

- NOAA Monster Jam Seminar: Invited Talk May. 2021
Talk: Using Deepglider AUVs to explore the structure of large ocean eddies and the role they play in the redistribution of energy and tracers
- UCLA: Biogeochemistry Group: Invited Talk Mar. 2021
Talk: Eddy Vertical Structure and Variability: Deepglider Observations of Geostrophic Turbulence in the North Atlantic
- NCAR-CESM: Ocean Model Working Group / CPT: Ocean Transport and Eddy Energy Annual Meeting Feb. 2021
Talk: Scale Aware Eddy Kinetic Energy from Along-Track Sea Surface Height Measurements
- Woods Hole Oceanographic Institution: Department Seminar Woods Hole, Jul. 2020
Talk: Eddy Vertical Structure and Variability: Deepglider Observations of Geostrophic Turbulence in the North Atlantic
- Ocean Sciences Meeting San Diego, Feb. 2020
Talk: Observations of Eddy Vertical Structure Variability in the North Atlantic and Energy Partitioning Across Vertical Modes
- Bermuda Institute of Ocean Sciences Bermuda, Aug. 2019
Talk: Geostrophic Turbulence and Eddy Vertical Structure
- Oregon State University Corvallis, Jun. 2019
Invited Talk: Geostrophic Turbulence and Eddy Vertical Structure
- University of Washington Seattle, Jun. 2019
Talk: Geostrophic Turbulence and Eddy Vertical Structure
- US CLIVAR Workshop: Sources and Sinks of Mesoscale Eddy Energy Tallahassee, Mar. 2019
Poster: Interpreting Geostrophic Turbulence from Eddy Vertical Structure and Variability
- Ocean Sciences Meeting Portland, Feb. 2018
Poster: Geostrophic Turbulence Observed in Eddy Vertical Structure
- GHER: Liege Colloquium Liege, Belgium, Jun. 2016

Poster: The Evolution of a California Undercurrent Submesoscale Eddy (Cuddy)

- Ocean Sciences Meeting

New Orleans, Feb. 2016

Poster: The Evolution of a California Undercurrent Submesoscale Eddy (Cuddy)

OUTREACH & VOLUNTEERING

- Letters to a Pre-Scientist 2020 –
Pen-pal/mentor for letter-writing non-profit with the goal of exposing middle school STEM students to new career pathways
- ESAC Peer Mentoring 2020 –
Mentor to graduate students in the Joint Program at WHOI
- Orca Bowl: Science Judge 2014–2019
High School STEM quiz-bowl competition
- Pacific Science Center: Polar Science Weekend 2014–2019
Annual expo showing ocean exploring instruments to the public
- Hazel Wolf Elementary 2016 –2019
STEM career 'advisor'

PROFESSIONAL ACTIVITIES

- Postdoctoral Association: At-Large Member 2020 –
Elected member of the WHOI postdoctoral association responsible for organizing and engaging with the WHOI postdoc community. Includes organizing seminars, workshops, panels, and happy-hours.
- Reviewer for Journal of Geophysical Research: Oceans (1 manuscript)
- UW College of the Environment: Student Advisory Committee Member 2017 –2018
Oceanography graduate student representative in the council serving as liaison between students and faculty/administration

AWARDS

- Liege Colloquium: Jacques Nihoul Poster Award (2016)