Jacob Steinberg

Website: jakesteinberg.github.io
Email: jsteinberg@whoi.edu
LinkedIn: jacobmsteinberg
GitHub: github.com/jakesteinberg

Education

University of Washington — Seattle, WA
Ph.D. in Physical Oceanography, Advisor: Charles Eriksen — 2013 –2020
- Thesis: "Eddy Vertical Structure and Variability: vortex evolution and the geography of geostrophic turbulence"

University of Washington — Seattle, WA
M.S. in Applied Mathematics — 2016

University of Washington — Seattle, WA
M.S. in Physical Oceanography — 2016

University of Maryland — College Park, MD
B.S. in Civil and Environmental Engineering, Magna Cum Laude (minor: project management) — 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 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 — Woods Hole, MA
Postdoctoral Investigator — May 2020 –
- 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

University of Washington — Seattle, WA
Research Assistant — 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 Lewes, DE
Research Experience for Undergraduates: Intern Summer 2012

– product: "Laboratory Investigation of Sea Spray as Produced by Wind and Breaking Waves"

N.O.A.A. Silver Spring, MD
Data Analyst / Intern 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.

Awards

- Liege Colloquium: Jacques Nihoul Poster Award (2016)

Conferences & Presentations

- 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 Corvalis, 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

- 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