

Curriculum Vitae

Michael M. Whitney, PhD

Associate Professor
Department of Marine Sciences
University of Connecticut

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Michael.Whitney@uconn.edu
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A. Professional Preparation

Oregon State University (Corvallis, Oregon)
College of Oceanic and Atmospheric Sciences
Postdoctoral research in coastal ocean dynamics July 2003-July 2005

University of Delaware (Newark, Delaware)
College of Marine Studies
Physical Ocean Science and Engineering Ph.D., May 2003

Yale University (New Haven, Connecticut)
Geology and Geophysics, Environmental Studies B.S., May 1996 *Cum Laude*

B. Professional Appointments

Associate Professor August 2012-present
Department of Marine Sciences
University of Connecticut (Groton, CT)

Fulbright-NSF Arctic Research Scholar March 2020-July 2020
University of Iceland (Reykjavik, Iceland)

Visiting Scientist July 2013, 2015, 2016
National Center for Atmospheric Research (Boulder, CO)

Visiting Fellow September-December 2012
Geology and Geophysics Department
Yale University (New Haven, CT)

Assistant Professor August 2005-August 2012
Department of Marine Sciences
University of Connecticut (Groton, CT)

Research Associate (Postdoctoral) July 2003-July 2005
College of Oceanic and Atmospheric Sciences
Oregon State University (Corvallis, OR)

Research Associate (Postdoctoral) May-July 2003
College of Marine Studies
University of Delaware (Newark, DE)

Graduate Fellow August 1998-May 2003
College of Marine Studies
University of Delaware (Newark, DE)

Project Scientist August 1996-August 1998
Ocean Surveys, Inc. (Old Saybrook, Connecticut)

C. Funded Research Projects (\$4,793,277 total to date)

- Connecticut Sea Grant Program. **M. M. Whitney (PI)**, C. Matassa (PI). Quantifying Larval Connectivity Patterns and Variability among Natural Oyster Beds along the Connecticut Coast. \$149,868 [02/01/2024-01/31/2026]
- National Science Foundation. **M. M. Whitney (PI)**. Icelandic Coastal Current interactions with peninsulas, bays, winds, and ocean currents controlling freshwater export and retention. \$671,610 [04/01/2023-03/31/2026]
- Environmental Protection Agency, Long Island Sound Study. **M. M. Whitney (PI)** and P. Linderoth. Tracking Pathogen Pathways and Fecal Bacteria Patterns for Public Beaches Suffering with Poor Water Quality Grades and Closures. \$310,628 [03/01/2023-02/28/2025]
- National Fish and Wildlife Foundation, Long Island Sound Futures Fund. **M. M. Whitney (PI)**. Marine Debris Education and Prevention with High-School Students in a Long Island Sound Environmental Justice Community. \$69,022 [06/01/2023-08/31/2025]
- Dominion Energy Charitable Foundation. **M. M. Whitney (PI)**. Confronting beach bacteria problems with innovative field analysis, outreach, and stewardship. \$18,400 [04/01/2023-10/01/2024]
- University of Connecticut - Research Excellence Program. **M. M. Whitney (PI)**, Observing Icelandic River-Water Pathways from River Mouths through the Ocean. \$20,774 [07/01/2020-12/31/2022]
- Environmental Protection Agency, Long Island Sound Study. P. Vlahos (PI), **M. M. Whitney (Co-PI)** and J. Vaudrey (Co-PI). Alkalinity of Long Island Sound Embayments (ALISE). \$131,088 [03/01/2021-02/28/2023]
- University of Connecticut - Scholarship Facilitation Fund. **M. M. Whitney (PI)**, Tracking Iceland's Rivers through Ocean Fisheries. \$2,000 [01/01/2020-12/31/2020]
- National Science Foundation. K. Colle (U. Maine, Lead-PI), K. Huguenard (U. Maine Co-PI), D. MacDonald (U. Mass. Dartmouth PI), **M. M. Whitney (UConn PI)**. Collaborative Research: Mixing of river water into the coastal ocean and the role and structure of the outer edge of the discharge. \$397,741 UConn portion [04/15/2018-03/21/2023]
- Environmental Protection Agency, Long Island Sound Study. P. Vlahos (PI), **M. M. Whitney (Co-PI)** and J. Vaudrey (Co-PI). Long Island Sound Respire Program. \$398,387 [03/01/2019-02/28/2022]
- Environmental Protection Agency, Long Island Sound Study. **M. M. Whitney (PI)** and P. Vlahos (Co-PI). Nutrient and Carbon Fluxes through Long Island Sound, Linking River Sources to Impacted Areas. \$278,851 [03/01/2017-02/28/2020]
- Connecticut Sea Grant Program. P. Vlahos (PI) and **M. M. Whitney (Co-PI)**. Net Carbon and Nitrogen Export of Long Island Sound. \$149,130 [05/01/2016-01/31/2018]
- Connecticut Sea Grant Program. **M. M. Whitney (PI)**, J. E. Ward (Co-PI), K. DeRosia-Banick (Co-PI). Modeling *Vibrio parahaemolyticus* outbreaks in commercial shellfish areas in western Long Island Sound. \$129,985 [12/01/2014-11/30/2017]
- South Central Regional Council of Governments. J. O'Donnell (PI) and **M. M. Whitney (Co-PI)**. Road Flooding in Coastal Connecticut. \$85,000 [09/01/2016-06/30/2017]
- Connecticut Sea Grant. **M. M. Whitney (PI)**. Ocean Drifters. \$3,200 [5/15/2014-9/1/2014]
- University of Connecticut Avery Point Campus. **M. M. Whitney (PI)**. Ocean Drifters. \$1,600 [5/15/2014-9/1/2014]

- United Illuminating. E. Aganostou (PI), M. Astitha (Co-PI), and **M. M. Whitney (Co-PI)**. Center of Excellence on Storm Hazards Mitigation & Power System Resilience. \$30,000 Whitney part [4/01/2014-3/31/2016]
- National Aeronautics and Space Administration (NASA). **M. M. Whitney (PI)** and J. Edson (Co-PI). Sea Breezes and Estuary-Shelf Response in Areas with Spatial Sea Surface Temperature Variability and Complex Coastal Geometry. \$432,610 [01/10/2013-1/09/2018]
- Connecticut Sea Grant Program. **M. M. Whitney (PI)** and P. Vlahos (Co-PI). Measuring and Predicting the Fate and Transport of Perfluorinated Contaminants Entering the Long Island Sound from Municipal Wastewater in the Housatonic Watershed. \$129,410 [02/01/2012-01/31/2015]
- Department of Energy. Bryan, F. (NCAR PI), J. Dennis (NCAR Co-PI), P. MacCready (UW PI), **M. M. Whitney (UConn PI)**. Collaborative Project: Improving the representation of coastal and estuarine processes in Earth system models. \$367,324 UConn portion [09/01/2011-08/31/2016]
- Dominion Foundation. P. Vlahos (PI), **M. M. Whitney (Co-PI)**, C. Tobias (Co-PI), W. F. Bohlen (Co-PI), and I. Babb (Co-PI). Undergraduate education using real-time marine environmental observational systems. \$45,910 [08/27/2011-08/26/2012]
- University of Connecticut Foundation Kitchings Fund. P. Vlahos (PI), **M. M. Whitney (Co-PI)**, C. Tobias (Co-PI), W. F. Bohlen (Co-PI), and I. Babb (Co-PI). Match for Undergraduate education using real-time marine environmental observational systems. \$5,000 [12/15/2011-08/26/2012]
- Connecticut Sea Grant. P. Vlahos (PI), **M. M. Whitney (Co-PI)**, C. Tobias (Co-PI), W. F. Bohlen (Co-PI), and I. Babb (Co-PI). Match for Undergraduate education using real-time marine environmental observational systems. \$4,000 [08/27/2011-12/15/2011]
- National Science Foundation (NSF): **M. M. Whitney (PI)**. CAREER: The Influence of Distributed River Inputs and Coastal Embayments on Dynamics in Large Estuaries. \$599,786 [06/15/2010-06/14/2017]
- National Science Foundation (NSF): **M. M. Whitney (UConn PI)**, D. Codiga (URI PI), and D. Ullman (URI Co-PI). Collaborative Research: Investigating tidal influences on subtidal estuary-coast exchange using observations and numerical simulations. \$345,545 UConn portion [09/01/2008-08/31/2012]
- University of Connecticut – Large Faculty Research Grant Program. **M. M. Whitney (PI)**. Simulations and Observations of Water Properties and Circulation within the Thames River Estuary. \$13,908 [06/01/2006-05/31/2007]
- Connecticut Sea Grant Program. P. Vlahos (PI), **M. M. Whitney (Co-PI)**, C. Koerting (Co-PI), and R. Whitlatch (Co-PI). Seed Funding for the Assessment and Remediation of the Thames River Estuary. \$2,500 [03/01/2006-07/1/2006]

D. Awards and Honors

- Fulbright Scholar, Fulbright-NSF Arctic Research Award (February 2019 awarded, March 2020 – June 2020 completed).
- National Science Foundation CAREER Award, National Science Foundation (May 2011 – May 2017).
- Voyager, 38th Voyage of the historic whaling ship Charles W. Morgan (July 2014), Mystic Seaport, National Endowment for the Humanities (April 2014 - September 2014).

E. Research Products *Student author (major advisee) ^Student author (associate advisee)

(i) Refereed publications

43. **Whitney, M. M.**, P. Spicer[^], D. MacDonald, K. D. Huguenard, K. L. Cole, Y. Jia*, N. Delatolas, 2024. Mixing of the Connecticut River plume during ambient flood tides: Spatial heterogeneity and contributions of bottom-generated and interfacial mixing. *J. Geophys. Res.: Oceans*, 129(3), e2023JC020423.
42. Liu, M., R. P. Mason, P. Vlahos, **M. M. Whitney**, Q. Zhang, J. K. Warren, X. Wang, Z. Baumann, 2023. Riverine discharge fuels the production of methylmercury in a large temperate estuary. *Environmental Science & Technology*, doi:10.1021/acs.est.3c00473.
41. Delatolas, N., D. G. MacDonald, L. Goodman, **M. M. Whitney**, K. Huguenard, K. Cole, 2023. Comparison of structure and turbulent mixing between lateral and leading-edge river plume fronts: Microstructure observations from a T-REMUS AUV. *Estuarine, Coastal, and Shelf Science*, 283, 108234.
40. **Whitney, M. M.**, 2023. Separation of the Icelandic Coastal Current from the Reykjanes Peninsula. *Estuarine, Coastal, and Shelf Science*, 280, 108163.
39. **Whitney, M. M.**, 2022. Observed and projected global warming pressure on coastal hypoxia. *Biogeosciences*, 19, 4479-4497.
38. Spicer, P.[^], K. Huguenard, K. L. Cole, D. G. MacDonald, **M. M. Whitney**, 2022. Evolving Interior Mixing Regimes in a Tidal River Plume. *Geophys. Res. Letters*, e2022GL099633.
37. Spicer, P.[^], K. Huguenard, K. L. Cole, D. G. MacDonald, **M. M. Whitney**, 2022. Wind Effects on Near and Midfield Mixing in Tidally Pulsed River Plumes. *J. Geophys. Res.: Oceans*, 127(5), e2022JC018462.
36. **Whitney, M. M.**, Y. Jia*, K. L. Cole, D. MacDonald, K. D. Huguenard, 2021. Freshwater composition and connectivity of the Connecticut River plume during ambient flood tides. *Frontiers in Marine Science*, 8, 747191.
35. Spicer, P.[^], K. L. Cole, K. Huguenard, D. G. MacDonald, **M. M. Whitney**, 2021. The Effect of Bottom-Generated Tidal Mixing on Tidally Pulsed River Plumes. *J. Phys. Oceanogr.*, 51(7), 2223-2241.
34. **Whitney, M. M.** and P. Vlahos, 2021. Reducing Hypoxia in an Urban Estuary Despite Climate Warming. *Environmental Science & Technology*, 55(2), 941-951.
33. Deignan-Schmidt, S.R.*, **M. M. Whitney**, and Y. Jia*, 2021. Influences of Islands and Shoals on Coastal Water Properties, Flushing Time, and Dispersion Within Western Long Island Sound. *Estuaries and Coasts*, 44, 991-1009.
32. **Whitney, M. M.** and Y. Jia* 2020. Solutions for Subtidal Flow in Channels and Estuaries Under Different Integral Constraints. *J. Geophys. Res.: Oceans*, 125, 10.1029/2020JC016076.
31. Menniti, C.*, **M. M. Whitney**, S. R. Deignan-Schmidt*, 2020. The Importance of Offshore Exchange for Water Temperatures in Norwalk Harbor. *Estuaries and Coasts*, 43, 787-808.
30. Byrd, A. L.[^], P. Vlahos, **M. M. Whitney**, C. Menniti*, J. K. Warren, 2020. Tidally resolved observations of organic carbon exchange through Eastern Long Island Sound. *Estuarine, Coastal and Shelf Science*, 232, 106463.

29. Vlahos, P., **M. M. Whitney**, C. Menniti*, J. R. Mullaney, J. Morrison, Y. Jia*, 2020. Nitrogen budgets of the Long Island Sound estuary. *Estuarine, Coastal and Shelf Science*, 232, 106493.
28. Snyder, J.T.^, **M. M. Whitney**, H. G. Dam, M. W. Jacobs, and H. Baumann, 2019. Citizen science observations reveal rapid, multi-decadal ecosystem changes in eastern Long Island Sound. *Marine Environmental Research*, 146, 80-88.
27. Jia, Y.* and **M. M. Whitney**, 2019. Summertime Connecticut River Water Pathways and Wind Impacts. *J. Geophys. Res.: Oceans*, 124(3), 1897-1914.
26. Sun, Q.*, **M. M. Whitney**, F. O. Bryan, and Y. H. Tseng, 2019. Assessing the skill of the improved treatment of riverine freshwater in the Community Earth System Model relative to a new salinity climatology. *J. of Advances in Modeling Earth Systems*, 11, 1189–1206.
25. Lombardo, K., E. Sinsky^, J. Edson, and **M. M. Whitney**, 2018. Sensitivity of offshore surface fluxes and sea breezes to the spatial distribution of sea-surface temperature. *Boundary-Layer Meteorology*, 166, 475-502.
24. Elmoznino, J.^, P. Vlahos, and **M. M. Whitney**, 2018. Occurrence and partitioning behavior of perfluoroalkyl acids in wastewater effluent discharging into the Long Island Sound. *Environmental Pollution*, 243, 453-461.
23. Deignan-Schmidt, S.R.* and **M. M. Whitney**, 2018. A Model Study on the Summertime Distribution of River Waters in Long Island Sound. *Estuaries and Coasts*, 41, 1002-1020.
22. Sun, Q.*, **M. M. Whitney**, F. O. Bryan, Y. H. Tseng, 2017. A box model for representing estuarine physical processes in Earth system models. *Ocean Modelling*, 112, pp.139-153.
21. Vlahos, P. and **M. M. Whitney**, 2017. Organic carbon patterns and budgets in the Long Island Sound estuary. *Limnology and Oceanography*, 62(S1).
20. **Whitney, M. M.**, D. S. Ullman, and D. L. Codiga. 2016. Subtidal Exchange in Eastern Long Island Sound. *J. Phys. Oceanogr.*, 46, 2351–2371.
19. Lombardo, K., E. Sinsky^, Y. Jia, **M. M. Whitney**, and J. Edson, 2016. Sensitivity of simulated sea breezes to initial conditions in complex coastal regions. *Monthly Weather Review*, 144 (4), 1299-1320.
18. Tseng, Y. -heng, F. O. Bryan, and **M. M. Whitney**, 2016. Impacts of the representation of riverine freshwater input in the community earth system model. *Ocean Modelling*, 105, S1463500316300786, doi:10.1016/j.ocemod.2016.08.002.
17. Raub, K.B.^, P. Vlahos, **M. M. Whitney.**, 2015. Comparison of marine sampling methods for organic contaminants: Passive samplers, water extractions, and live oyster deployment. *Marine Environmental Research*, 109:148-158.
16. **Whitney, M. M.**, Y. Jia*, P. M. McManus*, C. J. Kunz*. 2014. Sill effects on physical dynamics in eastern Long Island Sound. *Ocean Dynam.*, 43, 443-458.
15. O'Donnell, J., R. Wilson, K. Lwiza, **M. M. Whitney**, W. F. Bohlen, D. Codiga, D. Fribance^, T. Fake, M. Bowman, J. Varekamp, 2014: The Physical Oceanography of Long Island Sound. in *Long Island Sound Prospects for an Urban Season* , Latimer et al (eds).
14. **Whitney, M. M.**, D. L. Codiga, D. S. Ullman, P. M. McManus and R. Jiorle*. 2012. Tidal Cycles in Stratification and Shear and Their Relationship to Gradient Richardson Number and Eddy Viscosity Variations in Estuaries. *J. Phys. Oceanogr.*, 42, 1124-1133.
13. **Whitney, M. M.**, D. Codiga. 2011. Response of a large stratified estuary to winds: Observations, theory, and simulations of Long Island Sound. *J. Phys. Oceanogr.*, 41, 1308-1327.

12. Xia, M., L. Xie, L. J. Pietrafesa, and **M. M. Whitney**, 2011: The ideal response of a Gulf of Mexico estuary plume to wind forcing: Its connection with salt flux and a Lagrangian view, *J. Geophys. Res.: Oceans*, 116, C8.
11. **Whitney, M. M.** 2010. A study on the variability of river discharge and salinity in the Mid-Atlantic Bight and Long Island Sound. *Cont. Shelf Res.*, 30, 305-318.
10. **Whitney, M. M.** and J. S. Allen, 2009: Coastal wind-driven circulation in the vicinity of a bank: Part 1. Modeling flow over idealized banks, *J. Phys. Oceanogr.*, 39, 1273-1297.
9. **Whitney, M. M.** and J. S. Allen, 2009: Coastal wind-driven circulation in the vicinity of a bank: Part 2. Modeling flow over the Heceta Bank complex, *J. Phys. Oceanogr.*, 39, 1298-1316.
8. Rice, A. E., **M. M. Whitney**, R. W. Garvine, and P. Huq, 2008: Energetics in Delaware Bay: Comparison of two box models with observations, *J. Mar. Res.*, 66, 873-898.
7. **Whitney, M. M.** and R. W. Garvine, 2008: Estimating tidal current amplitudes outside estuaries and characterizing the zone of estuarine tidal influence, *J. Continent. Res.*, 28, 280-290.
6. Garvine, R. W. and **M. M. Whitney**, 2006: An estuarine box model of freshwater delivery to the coastal ocean for use in climate models, *J. Mar. Res.*, 64, 173-194.
5. Wetz, M. S., B. Hales, P. A. Wheeler, Z. Chase, and **M. M. Whitney**, 2006: Riverine input of macronutrients, iron, and organic matter to the coastal ocean off Oregon, USA, during the winter, *Limnol. Oceanogr.*, 51, 2221-2231.
4. **Whitney, M. M.** and R. W. Garvine, 2006: Simulating a coastal buoyant outflow: Comparisons to observations, *J. Phys. Oceanogr.*, 36, 3-21.
3. **Whitney, M. M.** and R. W. Garvine, 2005: Wind influence on the Delaware buoyant outflow, *J. Geophys. Res.: Oceans*, 110, doi:10.1029/2003JC002261.
2. Tilburg, C. E., J. T. Reager, and **M. M. Whitney**, 2005: The physics of blue crab larval recruitment in Delaware Bay: A model study, *J. Mar. Res.*, 63, 471-495.
1. **Whitney, M. M.**, 2003: *Simulating the Delaware Coastal Current*, University of Delaware dissertation.

(ii) Refereed articles submitted or in preparation

Whitney, M. M., Spicer, P. [^], D. G. MacDonald, K. D. Huguenard, K. L. Cole, Y. Jia*, N. Delatolas, Mixing of the Connecticut River plume during ambient flood tides. *J. Geophys. Res.: Oceans*, in first-stage review.

(iii) Other products

Sun, Q.*, **M. M. Whitney**, F. O. Bryan, Y. H. Tseng. Estuary Box Model (EBM) developed (2014), added to Community Earth System Model as an option (2015), default setting (2017), and included in Parallel Ocean Program Reference Manual Addendum (2018). Connecticut Department of Agriculture / Bureau of Aquaculture *Vibrio parahaemolyticus* Control Plan. 2014: K. DeRosia-Banick and **M. M. Whitney** set environmental triggers for rapid cooling of harvest oysters. **Whitney, M. M.** 2007. What Shapes the Ever-Changing Long Island Sound? *Wrack Lines* (a Connecticut Sea Grant publication), **7:1**, 11-14.

F. Research Presentations

(i) Invited

Reducing Hypoxia in an Urban Estuary Despite Climate Warming, Connecticut Department of Energy and Environmental Protection (2021), Science and Technical Advisory Committee Meeting, Long Island Sound Study (2021).

Understanding the Long Island Sound System for Sustainable Management, Connecticut Department of Energy and Environmental Protection (2021).

Assessing the Distributions of Carbon and Nitrogen Between the East River Tidal Strait and Western Long Island Sound, Long Island Sound Research Conference (2019).

Nitrogen Budgets of the Long Island Sound Estuary, Long Island Sound Research Conference (2019).

Linking Nitrogen Sources to Western Long Island Sound Water Quality, Long Island Sound Research Conference (2019).

Nutrient and Carbon Fluxes through Long Island Sound: Linking River Sources to Impacted Areas, Long Island Sound Study PI Meeting (2018).

Vibrio parahaemolyticus in Long Island Sound oysters and management strategies for aquaculture. National Shellfisheries Association Meeting (2018).

Carbon and Nutrient Uncertainty Estimates. Science and Technical Advisory Committee Meeting, Long Island Sound Study (2017).

An Ocean Overview. NSTA/NOAA Virtual Conference for Teachers (2017).

Model applications for Long Island Sound and its embayments, Science and Technical Advisory Committee Meeting, Long Island Sound Study (2017).

Forecasting Vibrio parahaemolyticus in Long Island Sound. 36th Milford Aquaculture Seminar (2016).

Connecticut's Response to the Management of Pathogenic Vibrio parahaemolyticus. 36th Milford Aquaculture Seminar (2016).

Including Estuary Processes in Earth System Models, Los Alamos National Laboratory (2016).

Overview of the Long Island Sound Model and its Application to Vibrio Management. Northeast Vibrio Workshop.

Improving the Representation of Riverine Freshwater Inputs in Climate Models, Salinity and Freshwater Changes in the Ocean Meeting in Hamburg Germany (2015).

Ocean Connections with the Charles W. Morgan, UConn Coastal Perspectives Lecture (2015).

Organic Contaminants entering Long Island Sound from the Housatonic River, UConn Environmental Engineering Seminar Series (2015).

Box Modeling Approach for Improving the Representation of Riverine Freshwater Inputs to Climate Models, CESM Ocean Model Working Group Meeting (2015), Department of Energy Climate Modeling PI Meeting (2014).

Per-fluorinated Contaminants Entering the Long Island Sound from Municipal Wastewater in the Housatonic Watershed, Connecticut Department of Energy and Environmental Protection (2014).

Loading, Mixing, and Transport of Organic Contaminants in Long Island Sound. Univ. of Maine School of Marine Sciences (2014), Connecticut Sea Grant Researchers Workshop (2013).

Physical Processes in Long Island Sound and Implications for Contaminants, Yale Forestry School (2012).

Sill Effects on Physical Processes in Long Island Sound, Woods Hole Oceanographic Institution Applied Ocean Physics & Engineering Seminar (2012), Yale University Atmosphere Ocean and Climate Dynamics Seminar (2012).

Improving the representation of coastal and estuarine processes in earth system models. DOE Office of Biological Research Climate and Earth System Modeling Meeting (2011).

Hypoxia in the Thames River, Connecticut Department of Energy and Environmental Protection (2011), Thames River Basin Partnership Summer Meeting (2011).

Subtidal flow in eastern Long Island Sound, University of Massachusetts Dartmouth School for Marine Science and Technology (2010).

Wind Response in the Long Island Sound, University of Rhode Island Graduate School of Oceanography (2010).

Processes influencing volume and salt fluxes through the mouth of a large estuary, Mathematics Department Penn State University (2009).

The Influence of Distributed River Inputs on Dynamics in Large Estuaries, US Geological Survey Coastal and Marine Science Seminar (2009).

Estuarine Dynamics: New Research in the Long Island Sound, College of Marine and Earth Studies University of Delaware (2009).

Variability of river discharge and salinity along the Mid-Atlantic Bight, UConn Marine Sciences Seminar (2007), College of Marine and Earth Studies University of Delaware (2007).

A modeling study of the wintertime circulation on the Oregon shelf, Woods Hole Oceanographic Institute Applied Ocean Physics and Engineering Seminar Series (2006).

Wind-driven circulation in the vicinity of a bank, Stony Brook University Topics in Atmospheric and Oceanic Sciences Series (2006).

(ii) Others

Presentations at: Gordon Research Conference Coastal Ocean Circulation (2023, 2017, 2015, 2013, 2009, 2005), Ocean Sciences Meeting (2024, 2022, 2020, 2018, 2016, 2014, 2012, 2010, 2008, 2006), Coastal Estuarine Research Federation Meeting (2021, 2017, 2009), Liege Colloquium (2021), Mid-Atlantic Bight Physical Oceanography and Meteorology Workshop (2019, 2016, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005), Physical Processes of Estuaries and Coastal Seas Meeting (2018, 2016), Northeast Vibrio Workshop (2015), New England Estuarine Research Society Meeting (2021, 2017, 2016, 2013, 2011), Aquatic Sciences Meeting (2011), Long Island Sound Research Conference (2019, 2016, 2013, 2010, 2008).

G. Teaching Experience

(i) Courses

- *Undergraduate Courses*: MARN 1002 Introduction to Oceanography, MARN 1003 Introduction to Oceanography with Lab, MARN 1004 Oceanography Laboratory, MARN 2002 Marine Sciences I, MARN 3000 The Hydrosphere and Global Climate, MARN 3002 Foundations of Marine Sciences, MARN 4060 Physical Oceanography, MARN 4066 River Influences on the Marine Environment, MARN 4896W Senior Research Thesis, MARN 4898 Variable Topics: Riverine Influences on the Marine Environment (Spring 2012).
- *Undergraduate Courses, old numbering*: MARN 170 Introduction to Oceanography, MARN 171 Introduction to Oceanography with Lab, MARN 172 Oceanography Laboratory, MARN 270 Descriptive Physical Oceanography.
- *Graduate Courses*: MARN 5065 Physical Oceanography, MARN 5066 River Influences on the Marine Environment, MARN 5200 Oceanographic Data Analysis, MARN 5895 Independent Study: Data Analysis Methods in Physical Oceanography, MARN 5898 Special Topics: Matlab for Marine Sciences (Spring 2014), MARN 5898 Special Topics: Coastal Fluid Mechanics (Spring 2013), MARN 5898 Special Topics: Coupled Dynamics of the Ocean and Atmosphere (Fall 2013), MARN 5898 Special Topics: Riverine Influences on the Marine Environment (Spring 2012), MARN 5995 Special Topics: Oceanographic Data Analysis.
- *Graduate Courses, old numbering*: MARN 410 Special Topics: Coastal Ocean Dynamics 1 (Fall 2007), MARN 410 Special Topics: Coastal Ocean Circulation (Spring 2006).

Concurrently taught: ^xundergrad, ^{*}undergrad/grad, ^{**}lecture/lecture&lab/lab combination

Year	Spring	Fall
2024	MARN 5200 (9 students)	TBD
2023	MARN 5066 (3 students)	MARN 5065 (8 students)
2022	MARN 5200 (5 students)	MARN 4060/5065 [*] (12 students)
2021	MARN 4066/5066 [*] (3 students)	MARN 4060/5065 [*] (10 students)
2020	<i>Spring Sabbatical Leave</i>	MARN 4060/5065 [*] (14 students)
2019	MARN 3002 (12 students)	MARN 4060/5065 [*] (17 students)
2018	MARN 5200 (7 students)	MARN 4060/5065 [*] (21 students)
2017	MARN 2002 (13 students)	MARN 4060/5065 [*] (11 students)
2016	MARN 5995 (9 students)	MARN 4060/5065 [*] (22 students)
2015	MARN 3000/4066 ^x (40 students)	MARN 4060/5065 [*] (19 students)
2014	MARN 5898 (13 students), MARN 5895 (1 student)	MARN 4060/5065 [*] (11 students)
2013	MARN 4896W (1 student), MARN 5898 (5 students)	MARN 4060/5065 [*] (22 students), MARN 5898 (4 students)
2012	MARN 4898/5898 [*] (3 students)	<i>Fall Sabbatical Leave</i>
2011	MARN 4060/5065 [*] (19 students)	MARN 4060/5065 [*] (16 students)
2010	MARN 4060 (16 students)	MARN 1002/1003/1004 ^{**} (38 students)
2009	MARN 4060 (15 students)	MARN 1002/1003/1004 ^{**} (37 students)
2008	MARN 270 (24 students)	MARN 1002/1003/1004 ^{**} (39 students)
2007	MARN 270 (19 students)	MARN 170/171/172 ^{**} (35 students), MARN 410 (4 students)
2006	MARN 410 (4 students)	MARN 170/171/172 ^{**} (33 students)
2005	N/A	MARN 170/171/172 ^{**} (42 students)

(ii) Advising

Major Advisor:

- Brittney Collins , Masters (September 2022 – Present)
- Luke Glass, PhD (August 2022 – Present)
- Christina Menniti, Masters (August 2019 – August 2021)
- Yan Jia, Masters, PhD (August 2011 – August 2019)
- Steven Deignan-Schmidt, Masters, PhD (August 2012 – May 2019)
- Qiang Sun, Masters, PhD (August 2012 – May 2019)
- Majid Bahari, PhD (August-December 2010, did not complete, family/international reasons)
- Ralph Jiorle, Masters (August 2007-August 2009)
- Melissa Hacker-Gibson, Masters (January 2007-May 2012)

Associate Advisor:

Lauren Barrett (PhD ongoing), Molly James (PhD ongoing), Preston Spicer (PhD 2022), Amin Ilia (PhD 2021), Yongmi Shin (PhD 2019), Joanne Elmoznino (PhD 2015), Grant McCardell (PhD 2012), James Reinhardt (PhD 2011), Diane Bennett (PhD 2010)

Mackenzie Blanus (Masters ongoing), Mary McGuinness (Masters 2022), John Speers (Masters 2021), Allison Byrd (Masters 2019), Jacob Snyder (Masters 2017), Jonathan Izett (Masters 2016), Eric Sinsky (Masters 2016), Aaron Rosenberg (Masters 2016), Kristin Raub (Masters 2013), Kelly Bostrom (Masters 2011), Erik Rivera (Masters 2008), Adam Houk (Masters 2007), Cervinia Manalo (Masters 2007)

Undergraduate Advisor:

- *Research Interns:* Selena Berard (2019), Deeba Khatri (2019), Christina Menniti (2016, 2015), Kayla Hodge (2014, 2013), Steve Deveaux (2014), Sydney Twarz (2013), Chris Kunz (2012), Adrian Kowalski (2012), Pearse McManus (2011), Michelle Slater (2011, 2010)
- *Students in Majors:* Marine Sciences, Environmental Sciences

H. Service and Outreach

(i) Professional

Senior Positions and Representation:

Science and Technical Advisory Committee Long Island Sound Study (2021 – Present), Representative (alternate) New England Ocean Science Education Collaborative (2020 – Present), Board Member Northeastern Regional Association of Coastal Ocean Observing Systems (2015 – 2022), Secretary and Executive Committee Member, Northeastern Regional Association of Coastal Ocean Observing Systems (2018 – 2020), Steering Committee Member Mid-Atlantic Bight Physical Oceanography and Meteorology Workshop Series (May 2011 – 2019), Advisory Committee NSF EarthCube Software Stewardship for Geosciences (2013 – 2015), Steering Committee Member New England Marine Renewable Energy Center (2008 – 2012), UConn Participant University Corporation for Atmospheric Research Meeting (2017, 2009), Board Member Sea Level Change Task Force for Yale and New Haven (2012 – 2014).

Conference Chairs and Session Conveners:

New England Estuary Research Society Fall Meeting (2017), Northeast Vibrio Working Group (2015), New England Estuary Research Society Fall Meeting (2014), Ocean Sciences Meeting (2014, 2012, 2010), Mid-Atlantic Bight Physical Oceanography and Meteorology Workshop (2013, 2012, 2009).

Professional Society Memberships:

Coastal and Estuarine Research Federation (2009 – Present), New England Estuarine Research Society (2009 – Present), American Geophysical Union. (2000 - Present), World Aquaculture Society (2019 - 2020), National Energy Research Scientific Computing Center at Department of Energy (2012 - 2016), American Society for Limnology and Oceanography (2010 – 2012), Thames River Basin Partnership (2008 – 2014), Estuarine Research Federation (2006 – 2007).

Conference and Workshop Panels:

Science and Technical Advisory Committee Meeting Long Island Sound Study (2017), Aquaculture 2019 (2019), Geosoft Earthcube Meeting (2015), NSF Earthcube Workshop (2012), Long Island Sound Synthesis Workshop (May 2007).

Grant Proposal Panels:

National Science Foundation (2018, 2014, 2012, 2011), National Aeronautical and Space Administration (2014), Ocean Frontier Institute (2017), Department of Energy (2020), Oregon Sea Grant (2015, 2013), New Jersey Sea Grant (2009).

Grant Proposal Reviews:

National Science Foundation (2005 – Present, usually 2 times/year), Swiss National Science Foundation (2023), New York Sea Grant (2015), Oregon Sea Grant (2015).

Promotion and Tenure Reviews:

University of Delaware (2021), University of Miami (2021), University of California San Diego (2019), William & Mary (2018), Brooklyn College (2017).

Journal and Book Reviews:

Journal of Geophysical Research Oceans (2024, 2023, 2022, 2014, 2013, 2011, 2010), *Journal of Physical Oceanography* (2023, 2018, 2017, 2016, 2010, 2006), *Estuaries & Coasts* (2023, 2006, 2007), *Frontiers in Marine Science* (2021), Elsevier book (2021), *Journal of Advances in Modeling Earth Systems* (2021, 2020), *Continental Shelf Research* (2018, 2013, 2009), *Ocean Science* (2013), *Journal of Marine Research* (2011, 2010, 2009, 2008, 2007, 2005), *Journal of Applied Mathematical Modeling* (2010), *Oceanography* (2010), *Estuaries* (2009), *Journal of Marine Systems* (2007, 2006), Rhode Island Sea Grant book (2006).

(ii) University of Connecticut

University / College of Liberal Arts and Sciences:

- *Faculty Point of Contact and Developer:* Graduate Certificate in Oceanographic Science & Technology (2019 – Present).
- *Co-chair:* Earth Sciences, Internal Competition Advisory Board (2022 – Present).
- *Coordinator:* Marine Sciences Concentration Environmental Science Program (2010 – 2014), Marine Sciences Courses UConn Early College Experience Program (2008 – 2012).
- *Senator,* University Senate (2015).
- *Member:* Coastal Perspectives Lectures Committee (2015 – Present), Environmental Science Advisory Committee (2008 – Present), Interdisciplinary Faculty Search Committee (2020 – 2021), Avery Point Academic Misconduct Hearing Board (2008 – 2016), Search Committee for Marine Sciences Head/Director (2014), Environmental Sciences Courses and Curriculum Committee (2011 – 2012), Avery Point Quantitative Curriculum Committee (2011 – 2012), Coastal Studies Coordinating Committee (2005 – 2011), IBM and UConn Partnerships Team (2010), *ad hoc* Avery Point Quantitative Module Development Committee (2006 – 2008), *ad hoc* Avery Point Math Curriculum Committee (2007).
- *Presenter:* First Year Experience Environmental Science course (2014, 2011, 2010), “Focus the Nation” National Climate Change Awareness Events (2009, 2008), meeting with University Corporation for Atmospheric Research delegation (2008).

Department of Marine Sciences:

- *Chair:* Advisory Committee to Head (2023 – Present), Space and Equipment Committee (2018 – Present), Search Committee for Assistant Professor of Physical Oceanography (2018 – 2019), *ad hoc* Committee for Physical Oceanography / Atmospheric Science Faculty Positions (2018 – 2018), General Exams Committee (2014 – 2017), Advisory Council to the Head (2013 – 2016), Awards and Admissions Committee (2011 – 2014), Strategic Planning Committee (2011 – 2012)
- *Member:* Advisory Committee to Head (2023 – Present), Strategic Planning Committee (2019 – Present), Graduate Exam Committee (2017 – Present), Search Committee for Assistant Professor of Physical Oceanography (2019 – 2019), Promotion, Tenure, & Reappointment Committee (2020 – 2022, 2017 – 2019), *ad hoc* ROV Committee (2019), Graduate Programs Committee (2015 – 2018), Search Committee for Benthic Ecologist or Biogeochemical Modeler Assistant Professor (2016 – 2017), General Exams Committee (2011 – 2017), *ad hoc* Committee on New Faculty Search Priorities (2016), *ad hoc* Committee on Physical Oceanography Teaching Metric A (2011 – 2015), Awards and Admissions Committee (2009 – 2015), Marine Sciences Coordinating Committee (2011 – 2014), *ad hoc* Committee on New Faculty Positions (2012 – 2013), Space and Equipment Committee (2012 – 2012), *ad hoc* Committee on Summer Work in Marine Sciences (2011), *ad hoc* Committee on Teaching Metrics (2011), *ad hoc* Group on Physical Oceanography Course Offerings (2008 – 2009),

Search Committee for Coastal Studies Coordinator (2007 – 2008), Search Committee for Visiting Oceanography Professor (2006).

- *Curriculum Reviser* for Oceanography Minor (2006).

(iii) Outreach

- *Presenter and activity leader*: Avery Point Marine Sciences Day (2023, 2017, 2013), Northeast Academy Math & Science Day (2019, 2018, 2017, 2016, 2015, 2014, 2013), UConn Study Abroad Students Orientation Week (2011, 2010), Waterford High School oceanography class (2009), Groton Maritime Academy (2009, 2008, 2007, 2006), Educational Talent Search Program (2007), Youth Endeavoring to Succeed Program (2007, 2006), Johns Hopkins University Center for Talented Youth (2005).
- *Presenter*: UConn meeting with Avangrid (2018), UConn Avery Point 50th Anniversary Festival (2017), US Coast Guard Cadets (2016), Marine Technology for Teachers and Students (2015), Institute for Science Instruction & Study (2015, 2012, 2010), Thames River Basin Partnership, general public (2011, 2011, 2008), Evolutions Program, Yale Peabody Museum (2010), Louis Stokes Alliance for Minority Participation (2010), COSEE-Ocean Systems Scientist-Educator Workshop (2009), Yale Club of Eastern Connecticut (2008).
- *Coordinator, presenter, and activity leader* at UConn Meet Your Estuary Day (2012).
- *Science Judge*: Connecticut Envirothon (2011) and Quahog Bowl (2010).
- *Designer of ocean lab activities* for Grasso Technical High School (2006-2007).

(iv) Media Coverage

- “Ocean Month: Project Oceanology Marine Science Day,” *Connecticut East This Week* (2023).
- “Long Island Sound research projects awarded funding,” *The Day* (2023).
- “Long Island Sound research projects land \$6.3M,” *Long Island Business News* (2023).
- “How to Crowdfund: Four Decades of Citizen Scientists in Long Island Sound,” *Nonprofit Quarterly* (2019).
- “Chemistry in Motion: Research project examines how Long Island Sound waters change with the tides,” *Wracklines* (2017).
- “Sea Grant funds go to three Long Island Sound research projects,” *The Day* (2017).
- “Connecticut Sea Grant awards funds for six research projects,” *The Day* (2016).
- “Charles W. Morgan provides scientific odyssey,” *The Day* (2015).
- “New research projects to focus on coastal resilience,” *The Day* (2014).
- “Uncharted Waters,” *Muse, Williams Magazine* (2014).
- “Charles W. Morgan: Century-Old Whaler Returns to the Sea,” WGBH TV (2014).
- “A Sea Change in Ocean Technology,” *NOAA OceansLIVE TV* (2014)
- “Research Sleuths Track Down Elusive PFCs in Long Island Sound Watershed,” *NOAA Sea Grant News Featured Stories* (2014).
- “How River Water Flows into Long Island Sound,” *UConn Today* (2010).
- “Taking the pulse of the Thames,” *The Day* (2010).
- “Shifting Sand, Shifting Strategies,” *Wrack Lines* (2007).

I. Skills and Training

- Models: Regional Ocean Modeling System (ROMS), Estuarine Coastal Ocean Model 3-dimensional (ECOM3d), Parallel Ocean Program version 2 (POP2), Weather Research & Forecasting (WRF), Coupled Ocean Atmosphere Wave Sediment Transport (COAWST), Community Earth System Model (CESM).
- Instrumentation: Acoustic Doppler Current Profilers (ADCP), Conductivity Temperature Depth (CTD) profilers, pressure gauges for tides and waves, dissolved oxygen sensors, surface meteorology weather stations, water sample bottles, temperature sensors, salinity sensors, pH sensors, fluorimeters, real-time quantitative Polymerase Chain Reaction (qPCR).
- Scientific Programing: MATLAB, Python, FORTRAN90, FORTRAN77, C++, C, Excel
- Data analysis: regression, coherence, wavelets, Fast Fourier Transforms (FFT), Empirical Orthogonal Functions (EOF), Principal Component Analysis (PCA), optimization.
- Training modules: “Improving Workplace Climate” (2023), UConn Search Committee Training (2017), historic sailing ship training (2014), “Powerpoint without the Bullets” (2008), “Making Student Teams an Important Component of Your Course” (2008).