

Jacqueline McSweeney

Oregon State University

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Coastal physical oceanographer interested in:

- *connectivity of estuarine, nearshore, and inner-shelf environments*
- *spatiotemporal variability of circulation, transport processes, and internal waves*
- *estuarine dynamics, including sediment transport and the contribution of lateral fluxes*

EDUCATION:

Ph.D., Physical Oceanography, Rutgers University, 2016

BS, Chemistry, Loyola Marymount University, 2011

BA, Spanish, Loyola Marymount University, 2011

ACADEMIC DISTINCTIONS:

National Science Foundation GROW Fellowship Recipient, 2016

National Science Foundation Graduate Research Fellowship Program Recipient, 2012

RELEVANT RESEARCH EXPERIENCE:

Post Doctoral Researcher in Physical Oceanography

- Oregon State University, Sep 2017 – present
- Non-linear Internal Wave Propagation across the Inner-Shelf of Central California
- Advisers: Jim Lerczak and Jack Barth

Post Doctoral Researcher in Physical Oceanography

- Scripps Institute of Oceanography, Jan – Aug 2017
- Estuarine-Nearshore Connectivity: Modeling and Observations
- Advisers: Sarah Giddings and Falk Feddersen

Research Assistant in Physical Oceanography

- Rutgers University Institute of Marine and Coastal Sciences, 2011 - 2016
- Sediment Transport Dynamics of Delaware Estuary: Modeling and Observations
- Advisers: Bob Chant and John Wilkin

Friday Harbor Laboratory Estuarine & Coastal Fluid Dynamics summer course attendee

- University of Washington, 2012
- Analysis of the Thermal Budget in Fisherman Bay (located on Lopez Island, WA)
- Advisers: Rocky Geyer and Parker MacCready

Research in Ocean Sciences (RIOS) REU intern

- Rutgers University, June – Aug 2010
- Profiling and Modeling Optics, Sediment and Phytoplankton in the Delaware Bay
- Adviser: John Wilkin; award recipient for best poster presentation

Organic Chemistry Research Assistant

- Loyola Marymount University, 2008 - 2011
- Synthesis of Indole Derivatives; Synthesis and molecular modeling of G-Quadruplexes
- Adviser: Jeremy McCallum

PUBLICATIONS:

- McSweeney, J. M.**, Lerczak, J. A., Barth, J. A., Becherer, J., Colosi, J. A., MacKinnon, J. A., MacMahan, J. H., Moum, J. N., Pierce, S. D., and Waterhouse, A. F., Observations of Shoaling Nonlinear Internal Bores Across the Central California Inner Shelf. *submitted to Journal of Physical Oceanography*.
- McSweeney, J. M.**, Chant, R. J., Wilkin, J. L., Sommerfield, C. K., and Tabatabai, A., Modeling Spatiotemporal Variability of Residual Sediment Fluxes in Delaware Estuary. *In revision at J. Geophys. Res. Oceans*.
- McSweeney, J. M.**, Chant, R. J., Wilkin, J. L., and Sommerfield, C. K. (2017), Suspended-sediment Impacts on Light-Limited Productivity in the Delaware Estuary. *Estuaries and Coasts*, doi:10.1007/s12237-016-0200-3
- McSweeney, J. M.**, Chant, R. J. and Sommerfield, C. K. (2016), Lateral Variability of Sediment Transport in the Delaware Estuary. *J. Geophys. Res. Oceans*. 121, 725–744, doi:10.1002/2015JC010974
- McCallum, J. E. B., Huston, G., **McSweeney, J. M.**, Rucker, B., (2010). Synthesis of Lipophilic N9-Benzylguanidine Derivatives. *Synlett*, 19, 2871–2874.

GRANTS AND PENDING PROPOSALS:

- NSF Office of Physical Oceanography. (2014) Gordon Research Conference Coastal Ocean Modeling: Coastal Ocean Circulation. John Wilkin and Jacqueline McSweeney. \$20,000.

RELEVANT TEACHING EXPERIENCE:

Numerical Modeling Lab Moderator, Scripps Institute of Oceanography, 2017

Invited Lecturer at Rutgers University, 2015-2016

- Coastal Sediment Processes & Estuarine Fluid Dynamics

Teaching Assistant for

- Dynamics of Marine Ecosystems at Rutgers, 2012
- General Physics I and Electricity & Magnetism at LMU, 2010- 2011
- Organic Chemistry and General Physics I at LMU, 2009 - 2010

Invited Seminars:

- 2019: University of Washington
- 2018: Oregon State University
- 2017: Stanford University
- 2016: National Oceanography Centre in Liverpool, Scripps Institute of Oceanography, Stockton University, Woods Hole Oceanographic Institute
- 2015: Oregon State University, Kean University

FIELD EXPERIENCE:

Central California Inner Shelf Field Work:

- 2017: 3 research cruises totaling 45 days at sea
- Collaborating with Jim Lerczak, Jack Barth, John Colosi, Jen MacKinnon, and others
- <https://scripps.ucsd.edu/projects/innershelf/>
- Mooring deployments and recoveries, ship and small boat surveys, acrobating

Coastal Field work in San Diego (Los Penasquitos Lagoon, San Diego Bay):

- 2017: 15+ days of fieldwork (all day trips)
- Collaborating with Sarah Giddings, Madeleine Harvey, and Angelica Rodriguez
- Small mooring deployments/recoveries, tidal surveys, RTK surveys

Arctic Tracer Release Experiment (ARCTREX) in the Chukchi Sea:

- 2014: 11 days at sea
- Collaborating with Peter Winsor and Bob Chant
- <http://research.cfos.uaf.edu/artlab/projects/ARCTREX/>
- Rhodamine dye experiments, acrobat surveys

Tidal Surveys in Fisherman Bay, WA:

- 2012: 5 days, small boat work
- Collaborating with Becca Jackson and Piero Mazzini

Delaware Estuary Field work:

- 2010-2015: 15+ trips of 1-5 days
- Collaborating with Bob Chant, Chris Sommerfield, and Liz Sikes
- Mooring deployments and recoveries, tidal surveys, sediment coring, fluorescein dye experiments

PROFESSIONAL ACTIVITIES:

Seminar Coordinator, *Physics of Oceans and Atmosphere Series*, Oregon State University, Jan 2019-present

Session Organizer/Chair, *Eastern Pacific Oceanography Conference (EPOC)*, Timberline, OR, September 2018

Chair, *Gordon Research Seminar on Coastal Ocean Modeling*, Biddeford, ME, June 2015

Cofounder, *Gathering of Rutgers Earth, Environmental and Natural Sciences*, 2013-2015

Seminar Coordinator, *Department of Marine and Coastal Sciences*, Rutgers, 2014-2015

SERVICE:

Peer reviewer for: *Journal of Geophysical Research – Oceans*, *Journal of Physical Oceanography*, *Continental Shelf Research*, *Estuaries and Coasts*, *Ocean Dynamics*, *Geomorphology*, *And Estuaries, Coasts, and Shelf Science*

Graduate Student Mentoring, 2016 – present

Science Fair/Research Symposium judge: various, 2011-2016

National Ocean Science Bowl: Shore Bowl and Salmon Bowl volunteer, 2011 – 2018

CONFERENCE PRESENTATIONS (FIRST AUTHOR): *indicates poster presentation

2019 Along-shore Variability of Internal Waves on the Inner Shelf*
Gordon Research Conference on Coastal Ocean Dynamics. Manchester, ME 2019

2018 Observations of Shoaling Non-linear Internal Bores across the Inner-Shelf
Physics of Estuaries and Coastal Seas Conference in Galveston, TX

Observations of Internal Tides on the Inner Shelf: A Three Dimensional Look at Propagation and Shoaling* *Eastern Pacific Oceanography Conference*, Timberline, OR

- A Three Dimensional Look at the Propagation and Transformation of Non-Linear Internal Waves across the Inner-Shelf off of a Relatively-Straight Coastline
Ocean Sciences Conference in Portland, OR
- 2017 Modeling the Tijuana River Estuary: a Cross Surfzone/Inner-shelf Dye Exchange Project* *Gordon Research Conference on Coastal Ocean Dynamics* in Biddeford, ME
- 2016 Spatiotemporal Variability of Residual Sediment Transport in Delaware Estuary
Physics of Estuaries and Coastal Seas Conference in the Netherlands
- Modeling 3-Dimensional Sediment Transport Processes in Delaware Estuary
Ocean Sciences Conference in New Orleans, LA
- 2015 Modeling Lateral Sediment Transport Processes in Delaware Estuary*
Coastal and Estuarine Research Federation Conference in Portland, OR
- Modeling Sediment Transport in Delaware Estuary*
Gordon Research Conference on Coastal Ocean Modeling in Biddeford, ME
- 2014 Lateral Sediment Dynamics in Delaware Estuary
Physics of Estuaries & Coastal Sea Conference in Porto de Galinhas, Brazil
- Biogeochemical Responses to Sediment and Light Dynamics in Delaware Estuary*
Ocean Sciences Conference in Honolulu, HI
- 2013 Sediment Dynamics in the Delaware Estuary's Turbidity Maximum
Coastal and Estuarine Research Federation Conference in San Diego, CA
- Sediment Transport in Delaware's Estuarine Turbidity Maximum*
Gordon Research Conference and Seminar on Coastal Ocean Circulation in Biddeford, ME
- Sediment Dynamics in Delaware Estuary *
Delaware Estuary Science and Environmental Summit in Cape May, NJ
- 2012 Sediment Processes in the Delaware's Estuarine Turbidity Maximum*
Physics of Estuaries and Coastal Seas Symposium in New York City, NY
- 2011 Profiling and Modeling Optics, Sediment and Phytoplankton in the Delaware Bay *
American Society of Limnology and Oceanography Conference in San Juan, Puerto Rico