Piero Mazzini, Ph.D.

Assistant Professor

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Education

Ph.D. 2009-2014	Physical Oceanography, Oregon State University, USA Research Advisor: Dr. John A. Barth Dissertation: "The effect of river discharge and wind forcing on the Oregon coastal ocean during fall and winter" (http://hdl.handle.net/1957/52595)
M.S. 2007-2009	Physical Oceanography, University of Sao Paulo, Brazil
B.S. (Honors) 2001-2006	Oceanography, University of Vale do Itajai, Brazil

Professional Experience

2017-present	Assistant Professor Department of Earth and Climate Sciences Estuary & Ocean Science Center San Francisco State University, USA
2015-2017	Postdoctoral Researcher Rutgers, The State University of New Jersey, USA Dr. Robert J. Chant (supervisor) and Dr. John Wilkin (co-supervisor). Research Project: "Circulation and Mixing in a Coastally Trapped River Plume".

Research Interests

Coastal ocean dynamics, wind-driven and buoyancy-driven flows over continental shelves, coastal upwelling/downwelling, river plume dynamics, estuarine circulation, shelf/estuaries exchange processes, flow-topography interactions, biophysical interactions in the coastal ocean, ocean observing technology, numerical modeling

Publications

Schettini, C.A.F., Domingues, E.C., Truccolo, E.C., Oliveira Filho, J.C, **Mazzini, P.L.F.**. 2017. Seasonal hydrography and currents at the eastern Brazilian continental shelf (7.5-9^{o}S) *Regional Studies in Marine Science*, 16, 131-144, ISSN 2352-4855, doi:10.1016/j.rsma.2017.08.012.

Mazzini, P.L.F. and Chant, R.J. 2016. Two-dimensional circulation and mixing in the far field of a surface-advected river plume. *Journal of Geophysical Research: Oceans*, 121, 3757-3776, doi:10.1002/2015JC011059.

Mazzini, P.L.F., C. M. Risien, J. A. Barth, S. Pierce, A. Erofeev, E. Dever, M. Kosro, M. Levine, R. K. Shearman, M. Vardaro. 2015. Anomalous near-surface low-salinity pulses off the central Oregon coast. *Nature Scientific Reports*, 5, 17145, doi: 10.1038/srep17145.

Mazzini, P.L.F., J.A. Barth, R.K. Shearman, and A. Erofeev. 2014. Buoyancy-driven coastal

currents off Oregon during fall and winter. *Journal of Physical Oceanography*, 44, 28542876, doi: 10.1175/JPO-D-14-0012.1.

Mazzini, P.L.F., and J. A. Barth. 2013. A comparison of mechanisms generating vertical transport in the Brazilian coastal upwelling regions. *Journal of Geophysical Research: Oceans*, 118, 59775993, doi: 10.1002/2013JC008924.

Pianca, C., **P.L.F. Mazzini**, and E. Siegle. 2010. Brazilian offshore wave climate based on NWW3 reanalysis. *Brazilian Journal of Oceanography*, vol.58, n.1, pp. 53-70 .

Mazzini, P.L.F. and C.A.F. Schettini. 2009. Avaliação de metodologias de interpolação espacial aplicadas a dados hidrográficos costeiros quase-sinóticos. *Brazilian Journal of Aquatic Science and Technology*, v. 13, p. 53-64.

Honors and Awards

2017 - PICES/ICES 3rd Early Career Scientist Conference (ECS3), 30/May-2/June/2017 in Busan, Korea ($920 CAD travel support).

2014 - Richard D. Mathews Memorial Scholarship ($1,500 summer tuition)

2012 - Best student talk at Eastern Pacific Ocean Conference (EPOC) - Mount Hood, OR.

2009-2013 - CAPES-FULBRIGHT Ph.D. Scholarship, 4 years of funding.

2009 - International Summer School: Estuarine Hydrodynamics, Universidade Federal do Rio Grande, Rio Grande, Brazil, 9-18 March 2009. Instructor: Arnoldo Valle-Levinson (Florida State University, USA). Co-sponsored FURG, Brazil. (award covered transportation, lodging and fees).

2009 - International Summer School: Procesos Físicos y Ecológicos en la Plataforma Interior. Universidad de Concepción, Chile, 19 - 24 January 2009. Instructors: Marcus Sobarzo, Fabián Tapia and Carlos Moffat. Co-sponsored Instituto de Verano Austral IX, Concepción, Chile. (award covered transportation, lodging and fees).

2007-2008 - MSc. Scholarship from the Brazilian National Council for Scientific and Technological Development (CNPq). CNPq is an organization of the Brazilian federal government under the Ministry of Science and Technology.

Invited Talks

2017 - Bodega Marine Laboratory - University of California, Davis: *The Combined Effect of River Discharge and Wind Forcing in the Coastal Ocean.* August 30^{th} 2017.

2017 - University of California Santa Cruz, Ocean Sciences Seminar: *The Combined Effect of River Discharge and Wind Forcing in the Coastal Ocean.* April 7^{th} 2017.

2016 - San Francisco State University / Romberg Tiburon Center for Environmental Studies: *Impact of river runoff in the coastal ocean: A glider perspective.* February 9-10^{th} 2016.

2015 - University of Connecticut: *Impact of river runoff in the coastal ocean: A glider perspective.* November 13^{th} 2015.

2015 - Woods Hole Oceanographic Institution: *Freshening of the continental shelf offshore of the Oregon Coastal Current.* October 22^{th} 2015.

2015 - Rutgers, IMCS seminar: *The Effect of River Discharge and Wind Forcing on the Oregon*

Coastal Ocean During Fall and Winter. February 9^{th} 2015.

2014 - Scripps Institution of Oceanography, CASPO seminar: *Buoyancy-driven coastal currents off the Oregon coast during fall and winter*. July 9^{th} 2014.

2014 - University of California Los Angeles, Oceanic Research Group seminar: *Buoyancy-driven coastal currents off the Oregon coast during fall and winter*. July 8^{th} 2014.

2014 - Oregon State University, CEOAS PO seminar: *Buoyancy-driven coastal currents off the Oregon coast during fall and winter*. January 21^{st} 2014.

Advising

B.Sc.

Allen Deon Saunders (SFSU) - ongoing
Amanda Latease Young (SFSU) - ongoing
Alyssa Haddon Zimmer (SFSU) - ongoing

Committee Participation

B.Sc.

Phellipe Pereira Couto (Universidade Federal do Paraná, Brazil) - 2014.
Olivia Wilbur (SFSU) - ongoing

M.Sc.

Jason Poague (SFSU) - 2017
Ryan Anderson (SFSU)- ongoing
Lauren Finkelstein (SFSU)- ongoing
Kaytlin Ingman (SFSU)- ongoing
Alexandria D. Lagos (SFSU)- ongoing
Molly Mclaughlin (SFSU)- ongoing
Carolina Ernani da Silva (University of Georgia) - ongoing

Ph.D.

Ernesto de Carvalho Domingues (Universidade Federal de Pernambuco, Brazil) - 2017

Teaching Experience

Instructor

2017 - ERTH 434/834 Coastal Processes (undergraduate/graduate). San Francisco State University, Fall 2017.

2017 - ERTH 205 Techniques in Earth Sciences (undergraduate). San Francisco State University, Fall 2017. (co-taugh with Shirin LeClaire)

2017 - ERTH 795 Oceanographic Processes in the California Current System (graduate). San Francisco State University, Spring 2017.

2017 - ERTH 701 Research Methods in Geoscience (graduate). San Francisco State University, Spring 2017.

Teaching Assistant

2014 - Teaching Assistant, OC 433/533 Coastal and Estuarine Oceanography (undergraduate/graduate). Instructor: John A. Barth, Oregon State University, Spring 2014.

2014 - Teaching Assistant, OC 332 Coastal Oceanography (undergraduate). Instructor: Ed Dever, Oregon State University, Winter 2014.

2013 - Teaching Assistant, OEAS 530 The Fluid Earth (graduate). Instructors: Emily Shroyer and Kipp Shearman, Oregon State University, Fall 2013.

2013 - Teaching Assistant, PICES 2013 Summer School on Ocean Observing Systems and Ecosystem Monitoring, Newport, OR. Principal Organizer: John A. Barth, August 19-23, 2013.

2012 - Teaching Assistant, OC 433/533 Coastal and Estuarine Oceanography (undergraduate/graduate). Instructor: John A. Barth, Oregon State University, Spring 2012.

2008 - Teaching Assistant, 2100101 Sistema Oceano 1 (undergraduate). Instructor: Belmiro Mendes de Castro Filho, University of Sao Paulo, Brazil, 1^{st} semester 2008.

2007 - Teaching Assistant, IOF-114 Oceanografia Física Costeira e Estuarina (undergraduate). Instructor: Belmiro Mendes de Castro Filho, University of Sao Paulo, Brazil, 2^{nd} semester 2007.

Field Experience

Underwater Gliders work

2009-2014 - Participated actively on the Glider Research Group from the Oregon State University (http://gliderfs2.coas.oregonstate.edu/).
PIs: John A. Barth and Kipp Shearman. The group conduct research using both Slocum gliders from Teledyne Webb Research and Seagliders from the University of Washington Fabrication Center.
Tasks:

- Deployment and recovery of gliders from the R.V. Elakha along the NH-Line, off Newport, OR;
- Laboratory work with gliders: battery change, compass calibration and ballasting;
- Glider piloting: 24 hr/day for one week, every 5 weeks.

Cruise participation

R/V Questuary: 1 day San Francisco Bay, CA, for the ERTH 205 Techniques in Earth Science class, November, 2017. Chief Scientist: Piero Mazzini.

R/V Questuary: 1 day San Francisco Bay, CA, for the ERTH 434/834 Coastal Processes class, October, 2017. Chief Scientist: Piero Mazzini.

R/V Caleta: 1 day at Jamaica Bay, NY, doing mooring work, April, 2016.

R/V Savannah: 3 days off Virginia and North Carolina coasts recovering moorings used to study the Chesapeake Bay Plume's circulation, turbulence and mixing, July, 2015. Chief Scientists: Malcolm Scully.

R/V Arabella: 12 daily cruises off Virginia and North Carolina coasts servicing moorings, doing turbulence measurements (microstructure), and deploying a REMUS, to investigate the Chesapeake

Bay Plume's circulation, turbulence and mixing, April/May, 2015. Chief Scientists: Robert Chant, Malcolm Scully and Nick Nidzieko.

R/V Sharp: 7 days off Virginia and North Carolina coasts deploying 13 moorings (including 2 Wirewalkers and 4 Met-buoys), doing hydrographic (CTD) and turbulence measurements (microstructure), and deploying a REMUS, to investigate the Chesapeake Bay Plume's circulation, turbulence and mixing, April, 2015. Chief Scientists: Robert Chant, Malcolm Scully and Nick Nidzieko.

R/V Arabella: 1 day off Delaware bay, searching and recovering moorings lost due to extreme freezing temperatures during winter, March, 2015. Chief Scientists: Robert J. Chant.

R/V Elakha: 1 day off Yaquina bay estuary, Oregon, doing CTD surveys and collecting water samples using mini-rosette, for field work of the class Coastal and Estuarine Oceanography, which I was the TA. May, 2014. Chief Scientist: John A. Barth.

R/V Elakha: 1 day off Yaquina bay estuary, Oregon, doing CTD surveys and collecting water samples using mini-rosette, for field work of the PICES summer school, which I was the TA. August, 2013. Chief Scientist: John A. Barth.

R/V Centennial: 1 day cruise at Pudget Sound doing hydrographic and ADCP surveys for the course Estuarine and Coastal Fluid Dynamics Summer School, Friday Harbor Laboratory, University of Washington. June, 2012. Chief Scientists: Parker MacCready and Rocky Geyer.

R/V Elakha: 1 day off Yaquina bay estuary, Oregon, doing CTD surveys and collecting water samples using mini-rosette, for field work of the class Coastal and Estuarine Oceanography, which I was the TA. May, 2012. Chief Scientist: John A. Barth.

R/V Wecoma: 2 days off Oregon coast deploying and testing "CAPABLE", a vertical profiling mooring system developed by OSU and WET Labs, Inc., May, 2011. Chief Scientists: John A. Barth, Murray Levine and Andrew Barnard.

R/V Miss Linda: 1 day off Oregon coast recovering "CAPABLE", a vertical profiling mooring system developed by OSU and WET Labs, Inc., Aug, 2010. Scientists onboard from WET Labs.

R/V Elakha: 1 day off Yaquina bay estuary, Oregon, doing CTD surveys for graduate-level class "Math on the Beach". September, 2009.

R/V Larus: 1 day cruise at the Lagoa dos Patos, Rio Grande, Brazil, doing hydrographic surveys and towed ADCP measurements. This cruise was part of the summer course Estuarine Hydrodynamics, Universidade Federal do Rio Grande, Rio Grande, Brazil. March, 2009. Chief Scientist: Arnoldo Valle-Levinson.

R/V Veliger II: 1 day cruise off São Sebastião Channel, Brazil, for the graduate-level course "Oceanografia Observacional", taken during my master's. Recovered moorings, towed ADCP and did hydrographic surveys of the channel. April, 2007. Chief Scientist: Ilson Carlos Almeida da Silveira.

R/V Atlântico Sul: 5 days off Rio Grande, Brazil, for the project "Amazônia Azul: A Experiência Embarcada". This project was designed to provide research cruise experience to undergraduate students in marine sciences. December, 2006.

Professional Conferences or Meetings

2017 - Eastern Pacific Ocean Conference (EPOC), Fallen Leaf Lake, CA - USA.
Oral Presentation (co-author): Patterns of nutrient variability in the California Undercurrent. Richard Dugdale, Piero Mazzini, Cassia Pianca, Frances Wilkerson.

2016 - Ocean Sciences Meeting, New Orleans, LA - USA. Oral Presentation: Mixing Estimates of a Surface Trapped Coastal Current. Chair of the session *The Dynamics of Buoyancy Driven Flows in Estuaries, River Plumes and on the Continental Shelf.*

2015 - Mid-Atlantic Bight Physical Oceanography and Meteorology Conference, Cape May, NJ - USA. Poster Presentation: Circulation Near the Nose Region of a Surface Trapped Coastal Current.

2014 - Ocean Sciences Meeting, Honolulu, HI - USA. Poster Presentation: Buoyancy-driven coastal current and transport observations off the Oregon coast during fall-winter using autonomous underwater gliders.

2013 - Workshop on River Plume Mixing, Mount Hood, OR - USA.

2013 - Gordon Research Conference on Coastal Ocean Circulation, Biddeford, ME - USA.
Poster Presentation: Freshwater observations from underwater gliders off the Oregon coast during fall-winter.

2013 - Gordon Research Seminar on Coastal Ocean Circulation, Biddeford, ME - USA.
Oral Presentation: Freshwater observations from underwater gliders off the Oregon coast during fall-winter.

2012 - Eastern Pacific Ocean Conference (EPOC), Mount Hood, OR - USA. Oral Presentation: Freshwater observations from underwater gliders off the Oregon coast during fall-winter.

2012 - Ocean Sciences Meeting, Salt Lake City, UT - USA. Poster Presentation: A Comparison between wind and topographically induced vertical velocities on the South and Southeast Brazilian continental shelves.

2011 - 5th Coastal Altimetry Workshop, San Diego, CA - USA.

2011 - Eastern Pacific Ocean Conference (EPOC), Fallen Leaf Lake, CA - USA.
Poster Presentation: Observations of anomalous near-surface low-salinity pulses off the central Oregon Coast.

2010 - Eastern Pacific Ocean Conference (EPOC), Mount Hood, OR - USA. Poster Presentation: Seasonal Variation of Fresh Water Content off the Oregon Coast Estimated from Glider Observations.

2010 - Ocean Sciences Meeting, Portland, OR - USA.

Outreach

2017 - The Romberg Tiburon Center's 27^{th} Annual Discovery Day Open House. Tiburon, CA, 23 April 2017.

2013 - Glider demo to the public on Da Vinci Days festival, along with Jack Barth. Corvallis, OR, 20 July 2013.

2012 - Guest lecturer at George Washington High School on Danville, VA - USA, hosted by teacher Mrs. Owen. Spent a day teaching introduction to oceanography to high school students. April, 2012.

Service

- NSF proposal reviewer for Physical Oceanography Program - Division of Ocean Sciences.

- Reviewer of pre-proposals for MarTERA/FTC. MarTERA is an ERA-NET Cofund scheme of

Horizon 2020 of the European Commission. The overall goal of the ERA-NET Cofund MarTERA is to strengthen the European Research Area (ERA) in maritime and marine technologies as well as Blue Growth. Fundação para a Ciência e a Tecnologia (FCT) is the Portuguese funding agency that supports science, technology and innovation, in all scientific domains, under responsibility of the Ministry for Science, Technology and Higher Education.

- Chair of the session *The Dynamics of Estuaries and Coastal Buoyancy-driven Flows* for the 2018 Ocean Sciences Meeting in Portland, OR, USA.

- Chair of the session *The Dynamics of Buoyancy Driven Flows in Estuaries, River Plumes and on the Continental Shelf* for the 2016 Ocean Sciences Meeting in New Orleans, LA, USA.

- Reviewer of the Journal of Physical Oceanography, Geophysical Research Letters, Journal of Geophysical Research, Ocean Modelling, Ocean Dynamics, Journal of Coastal Research, Revista Brasileira de Geofisica.

Languages

Portuguese (fluent), English (fluent), Spanish (fluent)