

Renato Menezes Castelao

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EDUCATION AND PROFESSIONAL APPOINTMENTS

- 2006-present Postdoctoral Associate, Institute of Marine and Coastal Sciences, Rutgers University (Drs. Scott Glenn and Oscar Schofield)
- 2001-2006 Ph.D. in Physical Oceanography, College of Oceanic and Atmospheric Sciences, Oregon State University (Dr. John Barth).
- 1999-2001 M.S. in Physical Oceanography, Oceanographic Institute, University of São Paulo – Brazil.
- 1994-1998 B.S. in Oceanography, University of Rio Grande – Brazil.

OTHER PROFESSIONAL APPOINTMENTS

- 2005-2006 Graduate Research Assistant, College of Oceanic and Atmospheric Sciences, Oregon State University.
- 2004 Graduate Teaching Assistant, College of Oceanic and Atmospheric Sciences, Oregon State University.

RESEARCH INTERESTS

Coastal ocean dynamics and its impact on the marine ecosystem, wind-driven mesoscale flows, flow-topography interactions, buoyancy-driven flows, internal waves and tides, coupled ocean observing and modeling networks.

HONORS AND AWARDS

- 2007 The Honor Society of Phi Kappa Phi.
- 2006 Oregon State University Distinguished Dissertation Award in Mathematics, Physical Sciences and Engineering. Best OSU PhD thesis between 2004 and 2006 in the fields of mathematics, physical sciences and engineering, and advanced as OSU's nominee in the national competition sponsored by the Council of Graduate Schools.
- 2005 Wayne V. Burt graduate student award for academic excellence in physical oceanography, College of Oceanic and Atmospheric Sciences, Oregon State University.

1999 Award winning conference presentation at the XII Brazilian Week of Oceanography.

TEACHING EXPERIENCE

2004 Teaching assistant for the course OC533-Coastal Oceanography (upper-undergraduate and graduate level), at the College of Oceanic and Atmospheric Sciences, Oregon State University. Dr. John Barth.

PROFESSIONAL SERVICE

2007-present Review proposals for the National Science Foundation.

2002-present Review manuscripts for Journal of Coastal Research, Continental Shelf Research, Journal of Geophysical Research – Oceans, Journal of Physical Oceanography

1998 Co-organizer of “XI Brazilian Week of Oceanography”, with 1200 participants.

PUBLICATIONS

2008 13. **Castelao, R. M.**, O. Schofield, S. Glenn, R. Chant and J. Kohut (2008), Cross-shelf transport of fresh water on the New Jersey Shelf. Journal of Geophysical Research, doi:10.1029/2007JC004241, in press.

12. **Castelao, R. M.**, S. Glenn, O. Schofield, R. Chant, J. Wilkin and J. Kohut (2008), Seasonal evolution of hydrographic fields in the central Middle Atlantic Bight from glider observations. Geophysical Research Letters, 35, L03617, doi:10.1029/2007GL032335.

2007 11. **Castelao, R. M.** and J. A. Barth (2007), The role of wind-stress curl in jet separation at a cape. Journal of Physical Oceanography, 37, 2652-2671.

2006 10. **Castelao, R. M.**, T. P. Mavor, J. A. Barth and L. C. Breaker (2006), Sea surface temperature fronts in the California Current System from geostationary satellite observations. Journal of Geophysical Research, 111, C09026, doi:10.1029/2006JC003541.

9. **Castelao, R. M.** and J. A. Barth (2006), The relative importance of wind strength and along-shelf bathymetric variations on the separation of a coastal upwelling jet. Journal of Physical Oceanography, 36, 412-425.

8. **Castelao, R. M.** and J. A. Barth (2006), Upwelling around Cabo Frio, Brazil: The importance of wind stress curl. Geophysical Research Letters, 33, L03602, doi:10.1029/2005GL025182.

- 2005 7. **Castelao, R. M.** and O. O. Moller Jr. (2006), A modeling study of Patos Lagoon (Brazil) flow response to idealized wind and river discharge: Dynamical analysis. *Brazilian Journal of Oceanography*, 54(1), 1-17.
- 2005 6. **Castelao, R. M.**, J. A. Barth and T. P. Mavor (2005), Flow-topography interactions in the northern California Current System observed from geostationary satellite data. *Geophysical Research Letters*, 32, L24612, doi:10.1029/2005GL024401.
5. Barth, J. A., S. D. Pierce and **R. M. Castelao** (2005), Time-dependent, wind-driven flow over a shallow midshelf submarine bank. *Journal of Geophysical Research*, 110, C10S05, doi:10.1029/2004JC002761.
4. **Castelao, R. M.** and J. A. Barth (2005), Coastal ocean response to summer upwelling favorable winds in a region of alongshore bottom topography variations off Oregon. *Journal of Geophysical Research*, 110, C10S04, doi:10.1029/2004JC002409.
3. Medeiros, P. M., M. C. Bicego, **R. M. Castelao**, C. Delrosso, G. Fillmann and A. Zamboni (2005), Natural and anthropogenic hydrocarbon inputs to sediments of Patos Lagoon Estuary, Brazil. *Environment International*, 31, 77-87.
- 2004 2. **Castelao, R. M.**, E. D. Campos and J. L. Miller (2004), A modeling study of coastal upwelling driven by wind and meanders of the Brazil Current. *Journal of Coastal Research*, 20(3), 662-671.
- 2003 1. **Castelao, R. M.** and O. O. Moller Jr. (2003), On the three-dimensional wind-driven circulation in Patos Lagoon. *Atlantica*, 25(2), 91-106. (In portuguese).

CONFERENCE ABSTRACTS

- 2008 **Castelao, R. M.**, S. Glenn, O. Schofield, R. Chant, J. Wilkin and J. Kohut (2008), Seasonal evolution of hydrographic fields in the central Middle Atlantic Bight. To be presented at AGU Ocean Sciences Meeting, Orlando, Florida.
- Gong, D., S. Glenn, **R. M. Castelao**, J. Kohut, O. Schofield (2008), Characterizing summer time shelf-slope exchange processes on the New Jersey Shelf. To be presented at AGU Ocean Sciences Meeting, Orlando, Florida.
- Chant, R., J. Wilkin, E. Hunter, J. Jurisa, W. Zhang, **R. M. Castelao**, J. Kohut, S. Glenn (2008), Dispersal of a buoyant river discharge: Interaction between wind, morphology and remotely forced flows. To be presented at AGU Ocean Sciences Meeting, Orlando, Florida.
- 2007 **Castelao, R. M.**, S. Glenn, O. Schofield, R. Chant, and J. Kohut (2007), Cross-shelf transport of freshwater in the New Jersey shelf. AGU Joint Assembly, Acapulco, Mexico.

- Schofield, O., B. Cahill, **R. M. Castelao**, J. Kohut, R. Chant, D. Gong, S. Glenn, X. Yi (2007), COOL observations on the biogeochemistry of the Mid-Atlantic Bight. AGU Joint Assembly, Acapulco, Mexico
- 2006 Chelton, D. B, T. Haack, J. Pullen and **R. M. Castelao** (2006), SST influence on surface wind stress from observations and the COAMPS model. Eastern Pacific Ocean Conference, Oregon.
- Mavor, T. P., **R. M. Castelao** and L. Breaker (2006), Near-realtime application of GOES sea surface temperature for the detection of large-scale ocean fronts. Ocean Sciences Meeting (AGU), Hawaii.
- Castelao, R. M.** and J. A. Barth (2006), On the dynamics of jet separation at Cape Blanco. Ocean Sciences Meeting (AGU), Hawaii.
- 2005 **Castelao, R. M.**, J. A. Barth and T. P. Mavor (2005), Sea surface temperature fronts in the California Current System: Observations from geostationary satellite. Eastern Pacific Ocean Conference, California.
- Castelao, R. M.**, J. A. Barth and T. P. Mavor (2005), Spatial and temporal variability in sea surface temperature fronts in the California Current System from satellite observations. European Geosciences Union meeting, Vienna, Austria.
- 2004 **Castelao, R. M.** and J. A. Barth (2004), Wind-driven coastal circulation response to the presence of a shallow submarine bank. American Geophysical Union Fall Meeting, California.
- Castelao, R. M.** and J. A. Barth (2004), On the effects of a shallow submarine bank on wind-driven coastal currents. Eastern Pacific Ocean Conference, Victoria, Canada.
- Castelao, R. M.** J. A. Barth (2004), Flow-topography interactions off the Oregon coast. Ocean Sciences Meeting (AGU), Oregon.
- 2003 **Castelao, R. M.** and J. A. Barth (2003), Coastal ocean response to topographic effects in the COAST region. Eastern Pacific Ocean Conference, California.
- 2001 **Castelao, R. M.**, E. J. D. Campos and J. L. Miller (2001), Coastal upwelling driven by wind and meanders of the Brazil Current. IAPSO meeting, Argentina.
- 2000 Pimenta, F. M., **R. M. Castelao** and E. J. D. Campos (2000), Can La Plata river waters reach the South Brazil Bight? XIII Brazilian Week of Oceanography, Brazil.
- 1999 **Castelao, R. M.**, F. M. Pimenta and E. J. D. Campos (1999), Modeling the dispersion of pollutants at Santos Bay, Brazil XII Brazilian Week of Oceanography, Brazil.
- 1999 **Castelao, R. M.**, O. O. Moller Jr., A. F. Fetter Fo. and E. J. D. Campos (1999), Patos Lagoon circulation driven by winds. XII Brazilian Week of Oceanography, Brazil.
- 1998 **Castelao, R. M.** and O. O. Moller Jr. (1998), Seiches in Patos Lagoon - RS, Brazil. XI Brazilian Week of Oceanography, Brazil.

Castelao, R. M. and O. O. Moller Jr. (1998), Wind-driven circulation in Patos Lagoon. Young Investigators Meeting, Brazil.

1997 **Castelao, R. M.**, G. T. Yogui, F. M. Pimenta, and G. Fillmann (1997), The impact of a sewage treatment plant on the Vieira river. X Brazilian Week of Oceanography, Brazil.

GRANT AWARDS

2008 National Science Foundation, “The response of the inner shelf cross-shelf circulation to oscillatory winds and tidal forcing”. PIs: Renato Castelao and Robert Chant, pending.

2005-2006 The Cooperative Institute for Oceanographic Satellite Studies (CIOSS) / NOAA, 2005-2006. “Sea-Surface Temperature Fronts in the Northern California Current: The Development of an Ocean Observing System Data Product Based on GOES Imagery”. PIs: John Barth and Renato Castelao (\$63,000).

FIELD RESEARCH

2007 *R/V Arabella*, off New Jersey, glider deployment, day-long cruise, July 2007.

R/V Arabella, off New Jersey, glider deployment, day-long cruise, March 2007.

2006 *R/V Elakha*, off Oregon, glider deployment, day-long cruise, 2006.

2003 *R/V New Horizon*, off Oregon, dye release experiment as part of a Lagrangian study of shelf transport, one week long, August 2003.

2002-2005 *R/V Elakha*, off Oregon, Minibat/Acrobat/mooring deployments/dye release, as part of both a Lagrangian study of shelf transport and the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) program. Several day-long cruises on a small boat, 2002-2005.

2002 *R/V Reville*, off Oregon and northern California, SeaSoar/ADCP/bio-acoustics sampling as part of the Global Ocean Ecosystem Dynamics Northeast Pacific (GLOBEC) program, three weeks long, August 2002.

2001 *R/V Wecoma*, off Oregon, CTD/mooring deployments as part of the Coastal Ocean Advances in Shelf Transport (COAST) program, one week long, August 2001.

2000 *R/V Meteor*, Equatorial Atlantic Ocean, CTD/mooring deployments as part of the Climate Variability and Predictability (CLIVAR) program, one month long, March-April 2000.

1997 *R/V Astro Garoupa*, southern Brazil, mooring deployments as part of the Environmental Studies of Oceanic and Coastal Areas of Southern Brazil program, 5 days long, October 1997.

1996 *R/V Astro Garoupa*, southern Brazil, mooring deployments as part of the Environmental Studies of Oceanic and Coastal Areas of Southern Brazil program, 8 days long, September 1996.

R/V Astro Garoupa, southern Brazil, mooring deployments as part of the Environmental Studies of Oceanic and Coastal Areas of Southern Brazil program, 5 days long, May 1996.

R/V Astro Garoupa, southern Brazil, CTD sampling as part of the Environmental Studies of Oceanic and Coastal Areas of Southern Brazil program, 8 days long, February 1996.

R/V Astro Garoupa, southern Brazil, mooring deployments as part of the Environmental Studies of Oceanic and Coastal Areas of Southern Brazil program, 3 days long, February 1996.

1995

R/V Astro Garoupa, southern Brazil, CTD sampling as part of the Environmental Studies of Oceanic and Coastal Areas of Southern Brazil program, 11 days long, November 1995.

R/V Larus, southern Brazil, CTD/net tow as part of the 'Abundance of the pink shrimp in Patos Lagoon' program, day-long cruise, February 1995.