

CURRICULUM VITAE

Name: Paola Malanotte Rizzoli

Place of Birth: Lonigo (Vicenza), Italy

Home Address: 75 Cambridge Parkway, #W502
Cambridge, MA 02142

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EDUCATION

- 1978 Ph.D., Physical Oceanography, Scripps Institution of Oceanography, University of California, Dissertation: "Solitary Rossby Waves Over Variable Relief and Their Stability Properties"
- 1968 Ph.D., Physics, University of Padua, Italy, "summa cum laude"
Dissertation: "Quantum-mechanical structure of biologically important molecules. Investigation of the complex molecules of nucleic acids"
- 1963 B.S., Physics and Mathematics, Lyceum "Benedetti," Venice, Italy; with highest honors

EMPLOYMENT

- 1997 - 2009 MIT Director of the Joint Program in Oceanography and Ocean Engineering between M.I.T. and the Woods Hole Oceanographic Institution (WHOI)
- 1992- Professor of Physical Oceanography, M.I.T., Cambridge, Massachusetts
- 1987-1992 Associate Professor of Physical Oceanography with tenure, M.I.T., Cambridge, Massachusetts
- 1985-1987 Associate Professor of Oceanography, M.I.T., Cambridge, Massachusetts
- 1981-1985 Assistant Professor of Oceanography, M.I.T., Cambridge, Massachusetts
- 1978-1980 Cecil and Ida Green Scholar at the Institute of Geophysics and Planetary Physics, University of California at San Diego (when on leave of absence from Italy)

- 1976-1981 Senior Scientist (tenured) at the “Istituto Dinamica Grande Masse,”
CNR, Venice, Italy
- 1972-1976 Research Associate at the “Istituto Studio Dinamica Grande Masse,”
CNR, Venice, Italy
- 1971-1972 Post-doctoral Research Associate at the “Istituto Studio Dinamica Grande
Masse,” CNR, Venice, Italy
- 1970-1971 Post-doctoral fellowship at the “Istituto Studio Dinamica Grande Masse,”
Italian National Research Council (CNR), Venice, Italy
- 1969 Post-doctoral fellowship of the Italian National Council at the University

PROFESSIONAL OUTSIDE ACTIVITIES

- 2019-2022 Editor of *AGU Advances*, appointment by the Vice-President of *Science*
- 2008-2017 Principal Investigator of the CENSAM (Center for Environmental
Sensing
And Modeling) Project of SMART (Singapore-MIT Alliance for Research
And Technology), Singapore
- 2013 Keynote Speaker at the IAPSO-IAMAS-IAG General Assembly in Goteborg,
Sweden, July 2013
- 2011 Keynote Speaker at the Symposium for the 25th anniversary of the POEM
Programme, November 2011, Accademia dei Lincei, Rome
- 2009-2012 Member of the AGU Committee for the nomination of AGU Fellows
- 2008 - 2009 Member of the Awards Nomination Committee of the American
Meteorological Society
- 2006-2009 Member of the Committee on Strategic Advice to the US “Climate
Change Science Program Committee” of the National Research Council-
National Academies
- 2006-2007 Chair of the Scientific Program Committee of the XXIV General
Assembly of the International Union of Geodesy and Geophysics
- 2005-2008 Member of the Advisory Board (CAB) of the Community Climate
System Model (CCSM) of the National Center for Atmospheric Research
- 2005-2006 Member of the Panel on “Climate Variability and Change” of the
National Academies
- Sept. 20-22, 2005 Invited speaker at the 75th Anniversary of Woods Hole
Oceanographic Institution

- 2005-2008 Affiliate Scientist at the National Center for Atmospheric Research
- 2002-2004 Member of the Advisory Committee for Geosciences (AC/GEO) of the National Science Foundation
- 2000-2003 Editor of the General Circulation and Modeling section of the Journal of Geophysical Research-Oceans
- 2000-2001 Chair of the UCAR Member's Nominating Committee
- 2000 Member of the Nominating Committee for the 2001 positions of President and Counselors of the American Meteorological Society
- 1999-2003 President of the International Association for the Physical Sciences of the Ocean (IAPSO)
- 1999-2005 Institutional Trustee of the University Corporation for Atmospheric Research (UCAR)
- 1999-2000 Member of the UCAR Committee for the search for new Director of NCAR (National Center for Atmospheric Research)
- 1998 Chair of the UCAR Review Team of the Center for Climate Prediction of the National Centers for the Environmental Prediction (NCEP)
- 1998- 1999 Member of the Advisory Panel of the Scientific Computing Division of the National Center for Atmospheric Research (NCAR)
- 1997 Chair of the External Review Committee of the Laboratory for Hydrospheric Sciences, Goddard Space Flight Center
- 1997 Member of the Nominating Committee for the 1999 positions of President and Counselors of the American Meteorological Society
- 1996-Present Member of the Advisory Panel to the Consorzio Venezia Nuova, Venice, Italy for the construction of the mobile gates in the Venice Lagoon
- 1996-1997 Member of the Panel of Experts nominated by the Department of the Environment, Italian Government, Rome, to advise on the Flood Problem of Venice and the Construction of the Gates to the Venice Lagoon
- 1995-1999 Deputy Secretary General of the International Association for the Physical Sciences of the Ocean (IAPSO)
- 1995-1998 Member of the Advisory Panel for the National Centers for Environmental Prediction (NCEP) of UCAR
- 1993-1998 Member of the Earth Science Council of the Universities Space Research Association (USRA)

- 1989-1998 Member of the Scientific Advisory Committee (SAC) of the Climate Systems Modeling Project (CSMP) of the University Corporation for Atmospheric Research (UCAR)
- 1983-1998 Co-chairperson of the International Program P.O.E.M. (Physical Oceanography of the Eastern Mediterranean), sponsored by UNESCO and IOC.
- 1992-1994 Member of the Outfall Monitoring Task Force for the Boston Harbor-Commonwealth of Massachusetts.
- 1991-1992 Member of the Search Committee for the Director of INO (Institute of Naval Oceanography) and the Navier-Stokes Chair at INO.
- 1991-1992 Member of the Standing Advisory Committee of INO (Institute of Naval Oceanography)
- 1989-1993 Member of the Steering and Advisory Committee for UCAR (University of Corporation for Atmospheric Research) post-doctoral program in oceanographic modelling
- 1989-1992 Member of the Advisory Panel for the Marine Center Project on coastal water quality of the Sea Grant Program of MIT
- 1991-1992 President of the Italian Commission for Competition and Assignment of 11 University Chairs in Physics of the Earth all over Italy
- 1987-1990 Member of the Advisory Panel for Ocean Sciences Research of the National Science Foundation
- 1987-1990 Member of the American Meteorological Society Committee on Atmospheric and Oceanic Waves and Stability
- 1987-1990 Member of the Steering and Advisory Committee for the UCAR (University Corporation for Atmospheric Research) Visiting Scientist Program in Meteorology
- 1985-1989 Member of the “Working Group on Numerical Modelling” of WOCE
- 1984-1988 President of the Committee of Physical Oceanography, Commission Internationale Exploration Scientifique de la Mer Mediterranee (CIESM), Monte Carlo, Monaco.
- 1980 Scientific Secretary of the 1st International Summer School “E. Fermi” in “Topics in Ocean Physics,” Varenna, Italy, of the Italian Physical Society.

- 1980 Organizer and Scientific Coordinator of the COSPAR/SCOR/IUCRM Symposium, "Oceanography from Space," sponsored by CNR of Italy, In Venice, 26-30 May.
- 1979-1982 Principal Investigator of YINAMG (Yugoslavian-Italian Northern Adriatic Modeling Group) in the International Program of Scientific Cooperation between Italy and Yugoslavia.
- 1977 Scientific Coordinator and Principal Investigator of 1978 Northern Adriatic test-site in the EURASEP program for the calibration of NIMBUS-7 satellite (CZCS sensor).
- 1972-1974 Chief Scientist during oceanographic campaigns in the Adriatic Sea on oceanographic ships of the Italian National Research Council: ADRIATIC I - January-February, 1972, ADRIATIC II - July-August 1973, ADRIATIC III - November 1974.

M.I.T. ACTIVITIES

Member of the Faculty Policy Committee (FPC), 2010-2013

Member of the Committee of Undergraduate Performance(CAP),2011-12

Member of the MIT Committee for the search of the Dean of the School of Science, 2006-2007

Member of the Faculty Advisory Committee for the search of the MIT President, 2003-2004

Associate Chair of the MIT Faculty, 2003 – 2005

Member of the Committee on the MIT Sea Grant College Program, 1998-2001.

Chair of the Committee of Undergraduate Performance (CAP), 1997-2000.

MIT Director of the Joint MIT/WHOI Program, 1997- 2009

Member of the Committee on Women Faculty of the School of Science, Dean's Appointment, 1995-2000

Chair of JCPO 1995-1997.

Member of the Joint Committee for Physical Oceanography, (JCPO), 1985-1997.

Undergraduate Committee of Dept. of Earth, Atmospheric & Planetary Sciences, Chair, 1989-1992

Affirmative Action Committee - Dept. of Earth, Atmospheric & Planetary Sciences
(Chairperson), 1984-1987.

Student Research Fund Committee - Dept. of Earth, Atmospheric & Planetary Sciences,
1983-1986

Member of the Foreign Scholarship Committee, MIT (Presidential appointment)
1984-1988

HONORS

Enrico Marchi Invited lecture, University of Catania , June 2018

Rachel Carson invited lecture, American Geophysical Union, New Orleans Dec. 2017

Singapore-MIT SMART Program Chair 2013-2014- Nomination from the Provost

Recipient of the Recognition Award from the Prime Minister of the
Italian Government for the contribution to the IPCC report winner of the
2007 Nobel Prize for Peace

Fellow of the American Geophysical Union, 2006
Fellow of the American Meteorological Society, 2002

Winner of the 1998 Masi of the Italian government for excellence in environmental
sciences

Editor's Award from the American Meteorological Society as best reviewer of the *Journal of
Physical Oceanography*, 1992

Cecil and Ida Green Scholar, Institute of Geophysics and Planetary Physics, Scripps
Institution of Oceanography, 1978-1980

PROFESSIONAL SOCIETY MEMBERSHIPS

American Physical Society

American Geophysical Union

American Meteorological Society

Oceanography Society

European Geophysical Society

Commission Internationale Exploration Scientifique Mer Mediterranee
(President of the Committee of Physical Oceanography, 1984-1988)

Italian Physical Society

REFEREED PUBLICATIONS IN ENGLISH

147. Jiang., G.Q., J.We, **P.Malanotte-Rizzoli**, and A.L. Gordon
 “An abrupt reversal of the South China Sea surface temperature since 1998”
 Submitted to *Nature Scientific Reports*, 2019
146. Xue P., **P.Malanotte-Rizzoli**, J.We and E.Eltahis
 “Coupled Regional Climate Modeling over the Maritime Continent: A review”
 Under revision for the *J.Geophys.Res.* special issue, 2019
145. Jiang, G.Q., J.We, **P.Malanotte-Rizzoli**, M.Li and A.L.Gordon
 “Seasonal and interannual variability of the subsurface velocity profile of the Indonesian
 Throughflow at Makassar Strait”, in press in *J.Geophys.Res.*, special issue, 2019
144. Li, M., J.We, D.Wang, A.Gordon, **P.Malanotte-Rizzoli**, S.Yang and G.Q.Jiang
 “Exploring the importance of the Mindoro and Sibutu pathways to the upper layer
 circulation of the South China Sea and Indonesian Throughflow”, *J.Geophys.Res.*,
Oceans
 124, <https://doi.org/10.1029/2018JC0>, Special Issue on “Recent Progresses in
 Oceanography and Air-Sea Interactions in Southeast Asian Archipelago”, L. Oey
 Editor,
 P.Malanotte-Rizzoli Guest Editor , 2019
143. Y.Sun, E.Eltahir and **P.Malanotte-Rizzoli**, “ The bottom water exchange
 between the
 Singapore Strait and the West Johor Strait “, *Cont. Shelf. Res.* 145, 32-42 ,
 DOI: 10.1016/ j.csr.2017.07.004, 2017
142. **Paola Malanotte-Rizzoli** “Venice and I: How a City Can Determine the fate of a
 Career”
Annu.Rev.Mar.Sci., 9: 1-29, DOI: 10.1146/annurev.-marine—010816-060632,
 2017
141. J.We and **P.Malanotte-Rizzoli**, M.-T Li and H.Wang , “Decomposition of thermal
 and
 dynamic changes in the South China Sea induced by boundary forcing and surface
 fluxes
 during 1970-2000” *J.Geophys.Res.,Oceans*, DOI: 10.1002/2016JC01207, 2016
140. J,Wei, **P.Malanotte-Rizzoli**, A.L.Gordon , M.-T.Li and D.X.Wang, “Opposite
 variability of
 Indonesian Throughflow and South China Sea Throughflow in the Sulawesi Sea “,
J.Phys.Oceanogr., DOI: 10.1175/JPO-D-16-0132.1, 2016

139. B.Thompson, P.Tkalich and **P.Malanotte-Rizzoli**, " Regime shift of the South China Sea SST in the late 1990's", *Climate Dynamics*, DOI: 10.1007/s00382-016-3178-4, 2016
138. B.Thompson, P.Tkalich, **P.Malanotte-Rizzoli**, B.Fricot and J.Mas, " Dynamical and Thermodynamical analysis of the South China Sea winter cold tongue", *Climate Dynamics*, DOI 10.1007/ s00382-015-2924-3, 2015
137. P.Xue, E.Eltahir,**P.Malanotte-Rizzoli** and J.Wei," Local feedback mechanisms of the shallow water region around the Maritime Continent", *J. Geophys. Res.*, 119, DOI: 10.1002/2013JC009700, 2014
136. H. Chen, T.-Y. Koh, **P.Malanotte-Rizzoli** and S. Guiting, " The relative importance of the wind-driven and tidal circulations in the Malacca Strait", *Con. Shelf Res.*, 88, 92-102, DOI 10.1016/j.csr.201.07.012, 2014
135. J.Wei, D. Wang, **P.Malanotte-Rizzoli** and M.Li, "Coupled seasonal and intra-seasonal Variability in the South China Sea ", *Climate Dynamics*, DOI 10.1007/s00382-014-2250-1 2014
134. Wang, C. and **P.Malanotte-Rizzoli**, " Diagnosis of Physical and Biological Control over Phytoplankton in the Gulf of Maine-Georges Bank Region Using an Adjoint Data Assimilation Approach", *J.Ocean.Univ.China*, DOI 10.1007/s11802-014-1995-ISSN 1672-5182, 2014
133. Wang C. and **P.Malanotte-Rizzoli**, " Diagnosis of Physical and Biological Controls on Phytoplankton Distribution in the Sargasso Sea", *J. Ocean.Univ.China*, DOI 10.1007/s11802-014-1962- ISSN 1672-5182, 2014
132. **P.Malanotte-Rizzoli** and the Pan-Med Group, " Physical Forcing and physical/ biochemical variability of the Mediterranean Sea: a review of unresolved issues and directions for future research", *Ocean Sci. Discuss.*, DOI : 10.5194/osd-10-1205-2013, online November 2013
131. J.Wei, **P.Malanotte-Rizzoli**, E.Eltahir,P.Xue and D. Zhang, "Coupling of a Regional Atmospheric Model (RegCM3) and a Regional Oceanic Model (FVCOM) over the Maritime Continent",*Climate Dynamics*, DOI: 10.1007/s00382-013-1986-3, online November 2013
130. D.Xu and **P.Malanotte-Rizzoli**, "The Seasonal Variation of the Upper Layers of the South China Sea (SCS) circulation and the Indonesian Troughflow (ITF): an Ocean Model Study", *Dyn. Atmos.Oceans*, DOI: 10.1016/j.dynatmoce.2013.05.002, 63, 103-130, 2013
129. J.Wang, M.Spall, G.Flierl and **P.Malanotte-Rizzoli**, "A new mechanism for the generation of quasi-zonal jets in the ocean", *Geophys.Res.Letters*, vol.39, L10601, doi:10.1029/2012GL051861, 2012

128. P.Tkalich, P.Vethamony, M.T.Babu and **P.Malanotte-Rizzoli**, “Storm surges in the Singapore Strait due to winds in the South China Sea”, *Natural Hazards*, DOI 10.1007/s11069-012-0211-8, 2012
127. Y.Ashkenazy, P.H.Stone and **P.Malanotte-Rizzoli**, “ Box modeling of the Eastern Mediterranean Sea”, *Physica A*, 391,1519-1531, 2012
126. H.Chen, P.Tkalich, **P.Malanotte-Rizzoli** and J.Wei, “The forced and free response of the South China Sea to the large scale monsoon system”, *Ocean Dynamics*, DOI10.1007/110236-011-0511-7, 62, 377-393, 2012
125. H.Chen, J.Wei, P.Tkalich and **P.Malanotte-Rizzoli**, “ The various components of the Circulation in the Singapore Strait region: tidal, wind and eddy-driven circulations and their relative importance “, Refereed Proceedings of the 20th *International Offshore and Polar Engineering Conference (ISOPE)*, 2011
124. J.Wei, H.Zheng, H.Chen, B.H.Ooi, M.H.Dao, W.Cho, **P.Malanotte-Rizzoli**,P.Tkalich and N.M. Patrikalakis, “Multi-layer model simulation and data assimilation in the Serangoon Harbor of Singapore”, Refereed Proceedings of the 20th *International Offshore and Polar Engineering Conference (ISOPE)*, 2011
123. B.H.Ooi, H.Zheng, K.P.Yue, H.Kurniawati, P.Sundarambal, M.H.Dao, K.A.P.Roopsekhar, J.Wei, W.Cho, P.Tkalich, **P.Malanotte-Rizzoli** and N.M.Patrikalakis, “Case study of phytoplankton blooms in Serangoon Harbor of Singapore”, Refereed Proceedings-20th *International Offshore and Polar Engineering Conference*, 2011
122. A.Bergamasco and **P.Malanotte-Rizzoli**, “ The circulation of the Mediterranean Sea: a historical review of experimental investigations”, *Advances in Oceanography and Limnology*, Vol.1, 9-22, 2010
121. J.Wei and **P.Malanotte-Rizzoli**, “Validation and application of an Ensemble Kalman Filter in the Selat Pauh in Singapore”, *Ocean Dynamics*, DOI 10.1007/s10236-009-0253-y, 2009
120. Ooi, B.H., H.Zheng, H.Kurniawati, W.Cho, M.H.Dao, J.Wei, P.Zemskyy, P.Tkalich, **P.Malanotte-Rizzoli**, N.M.Patrikalakis, “ Multi-Vehicle Oceanographic Feature Exploration”, Proceedings of the 19th *International Offshore and Polar Engineering Conference (ISOPE)*, vol.2, 669-676, 2009
119. C.Chen, **P.Malanotte-Rizzoli**, J.Wei, R.C.Beardsley, Z.Lai, P.Xue, S.-J.Lyu,Q.Xu,J.Qi and G.Cowles, “Validation of Kalman filters for coastal ocean problems: an experiment with FVCOM”, *J.Geophys.Res.*, doi:10.1029/2007JC004548, 2009
118. E.Urban,B.Sundby, **P.Malanotte-Rizzoli** and J.Melillo , “Dynamics of Semi-Enclosed Ecosystems: Introduction”, in “*Watersheds, Bays and Bounded Seas*”, Island Press, 1-8, 2008

117. P. M. S. Monteiro, A. K. van Der Plas, G. W. Bailey, **P. Malanotte-Rizzoli**, C. M. Duncombe Rae, D. Byrnes, G. Pitcher, P. Florenchie, P. Penven, J. Fitzpatrick and H. U. Lass, “Low Oxygen Water (LOW) forcing scales amenable to forecasting in the Benguela ecosystem,” in *The Benguela: Predicting a Large Marine Ecosystem*, Elsevier Publishing Company, O’Toole, Shannon, Moloney, **Malanotte-Rizzoli**, Hempel and Woods, eds., 295-308, 2006.
116. P. Lionello-, **P. Malanotte-Rizzoli**, R. Boscolo, P. Alpert, V. Artale, L. Li, J. Luterbacher, W. May, R. Trigo, M. Tsimplis, U. Ulbrich, and E. Xoplai, “The Mediterranean climate: an overview of the main characteristics and issues,” in *Mediterranean Climate Variability*, Elsevier Publishing Company Oceanographic Series, P. Lionello, P. Malanotte-Rizzoli and R. Boscolo, eds, 1-25, 2006.
115. M. N. Tsimplis, V. Zervakis, S. A. Josey, E. Peneva, M. V. Struglia, E. Stanev, P. Lionello, **P. Malanotte-Rizzoli**, V. Artale, A. Theocharis, E. Tragou and T. Oguz, “Changes in the oceanography of the Mediterranean Sea and their link to climate variability,” in *Mediterranean Climate Variability*, Elsevier Publishing Company Oceanographic Series, P. Lionello, P. Malanotte-Rizzoli and R. Boscolo, eds, 227-282, 2006.
114. V. Artale, S. Calmanti, **P. Malanotte-Rizzoli**, G. Pisacane, V. Rupolo and M. Tsimplis, “The Atlantic and Mediterranean sea as a connected system,” in *Mediterranean Climate Variability*, Elsevier Publishing Company Oceanographic Series, P. Lionello, **P. Malanotte-Rizzoli**, and R. Boscolo, eds, 283-323, 2006.
113. M. Jochum and **P. Malanotte-Rizzoli**, 2005: “Reply to L. Hua's Comment on ‘A new theory for the generation equatorial subsurface countercurrents’,” *J. Phys. Oceanogr.*, 35, 1497-1500, 2005.
112. J. Kröger, A. J. Busalacchi, J. Ballabrera-Poy, **P. Malanotte-Rizzoli**, “Decadal variability of shallow cells and equatorial sea surface temperature in a numerical model of the Atlantic,” *J. Geophys. Res.*, 110, C12003, doi:10.1029/2004JC002703, 2005.
111. M. Jochum, R. Murtugudde, R. Ferrari and **P. Malanotte-Rizzoli**, “The impact of horizontal resolution on the tropical heat budget in an Atlantic ocean model,” *J. Climate*, 18, 841-851, 2005.
110. M. Jochum, R. Murtugudde, **P. Malanotte-Rizzoli**, and A.J. Busalacchi, “Internal Variability of the Tropical Atlantic Ocean,” American Geophysical Union for a Geophysical Monograph, “Ocean-Atmosphere Interaction and Climate Variability,” edited by C. Wang, S.-P. Xie, and J.A. Carton, 181-188, 2004.
109. M. Jochum and **P. Malanotte-Rizzoli**, “A new theory for the generation of the Equatorial Subsurface Countercurrents,” *J. Phys. Oceanogr.*, 34, 755-771, 2004.
108. M. Jochum, **P. Malanotte-Rizzoli** and A. Busalacchi, “Tropical instability waves in the Atlantic Ocean,” *Ocean Modeling*, 7, 145-163, 2004.

107. **P. Malanotte-Rizzoli** et al., The LIWEX Group, “The Levantine Intermediate Water Experiment (LIWEX) Group: Levantine Basin – A laboratory for multiple water mass formation processes.” *J. Geophys. Res.*, 108, C9, 8101, doi: 10.1029/2002JC001643, 2003.
106. T. Oguz, T. Cokacar, **P. Malanotte-Rizzoli**, and H. Ducklow, “Climate warming and accompanying changes in the ecological regime of the Black Sea during 1990s,” *Global Biogeochemical Cycles*, 17, 3, 1088, doi: 10.1029/2003GB002031, 2003.
105. X. Zang and **P. Malanotte-Rizzoli**, “A comparison of assimilation results from the Ensemble Kalman filter and the Reduced-Rank Extended Kalman filter,” *Nonlinear Processes in Geophysics*, vol. 10, no. 6, 477-491, 2003.
104. M. Buehner, **P. Malanotte-Rizzoli**, A.J. Busalacchi, and T. Inui, “Estimation of the Tropical Atlantic Circulation from Altimetry data using a Reduced-Rank Stationary Kalman filter,” in *Interhemispheric water exchanges in the Atlantic Ocean*, G.G. Goni and P. Malanotte-Rizzoli, eds., Elsevier Oceanographic Series, vol. 68, 49-92, 2003.
103. M. Jochum and **P. Malanotte-Rizzoli**, “The flow of AAIW across the equator,” in *Interhemispheric water exchanges in the Atlantic Ocean*, G.G. Goni and P. Malanotte-Rizzoli, eds., Elsevier Oceanographic Series, vol. 68, 193-212, 2003.
102. M. Jochum and **P. Malanotte-Rizzoli**, “On the generation of North Brazil Current Rings,” *J. Mar. Res.*, 61, 147-173, 2003.
101. M. Buehner and **P. Malanotte-Rizzoli**, “Reduced-rank Kalman Filters applied to an idealized model of the wind-driven ocean circulation,” *J. Geophys. Res.*, 108, no. C6, 3192, 10.1029/2001JC00873, 2003.
100. T. Oguz, **P. Malanotte-Rizzoli**, H.W. Ducklow, and J.W. Murray, “Interdisciplinary studies in integrating the Black Sea Biogeochemistry and Circulation Dynamics,” *Oceanography*, 15, 4-11, 2002.
99. Solovev, M., P.H. Stone, **P. Malanotte-Rizzoli**, “Assessment of mesoscale eddy parameterizations for a single basin coarse resolution ocean model,” *J. Geophys. Res.*, 107, C9, DOI 10.1029/2001JC001032, 2002.
98. T. Inui, A. Lazar, **P. Malanotte-Rizzoli**, and A.J. Busalacchi, “Wind stress effects on the Atlantic subtropical-tropical circulation,” *J. Phys. Oceanogr.*, 32, 2257-2276, 2002.
97. Lazar, A., T. Inui, A.J. Busalacchi, **P. Malanotte-Rizzoli**, L. Wang, and R. Murtugudde, “Seasonality of the ventilation of the tropical Atlantic,” *J. Geophys. Res.*, 107(0), 10.1029/2000JC000667, 2002.
96. A. Mahadevan, J. Lu, S.P. Meacham, and **P. Malanotte-Rizzoli**, “The predictability of large-scale wind-driven flows,” *Nonlinear Processes in Geophysics*, 8, 449-465, 2001.

95. M. Jochum and **P. Malanotte-Rizzoli**, “On the influence of the meridional overturning circulation on the tropical-subtropical pathways,” *J. Phys. Oceanogr.*, 31, 1313-1323, 2001.
94. T. Oguz, **P. Malanotte-Rizzoli**, and H.W. Ducklow, “Simulations of phytoplankton seasonal cycle with multi-level and multi-layer physical-ecosystem models: the Black Sea example,” *Ecological Modelling*, 144, 295-314, 2001.
93. T. Oguz, H.W. Ducklow, J.E. Purcell, and **P. Malanotte-Rizzoli**, “Modeling the response of top-down control exerted by gelatinous carnivores on the Black Sea pelagic food web,” *J. Geophys. Res.*, 106, 4543-4564, 2001.
92. T. Oguz, H.W. Ducklow, **P. Malanotte-Rizzoli**, “Modeling distinct vertical biogeochemical structure of the Black Sea: dynamical coupling of the oxic, suboxic and anoxic layers,” *Global Biogeochemical Cycles*, 14, 1331-1352, 2000.
91. **P. Malanotte-Rizzoli**, R.E. Young, K. Hedstrom, H. Arango, and D.B. Haidvogel, “Water mass pathways between the subtropical and tropical ocean in a climatological simulation of the North Atlantic ocean circulation,” *Dyn. Atmos. Oceans*, 32, 331-372, 2000.
90. D.B. Haidvogel, H. Arango, K. Hedstrom, A. Beckmann, **P. Malanotte-Rizzoli**, and S. Shchepetkin, “Model evaluation experiments in the North Atlantic basin: simulations in non-linear terrain following coordinates,” *Dyn. Atmos. Oceans*, 32, 239-282, 2000.
89. E. Napolitano, T. Oguz, **P. Malanotte-Rizzoli**, A. Yilmaz, and E. Sansone, “Simulations of biological production in the Rhodes and Ionian basins of the Eastern Mediterranean,” *J. Marine Systems*, 24, 277-298, 2000.
88. S. Jiang, P.H. Stone, and **P. Malanotte-Rizzoli**, “An assessment of the GFDL Ocean Model with Coarse Resolution. Part I. Annual mean climatology,” *J. Geophys. Res.*, 104, 25,623-25,645, 1999.
87. S. Jiang and **P. Malanotte-Rizzoli**, “On the predictability of regional oceanic jet stream: the impact of model errors at the inflow boundary,” *J. Marine Res.*, 57, 641-669, 1999.
86. **P. Malanotte-Rizzoli**, B.B. Manca, M. Ribera d’Alcalà, A. Theocharis, S. Brenner, G. Budillon, and E. Ozsoy, “The Eastern Mediterranean in the 80’s and in the 90’s: the big transition in the intermediate and deep circulations,” *Dyn. Atmos. Oceans*, 29, 365-395, 1999.
85. T. Oguz, U. Unluata, H.W. Ducklow, and **P. Malanotte-Rizzoli**, “Modeling the Black Sea Pelagic ecosystem and biochemical structure: A synthesis of recent activities”. In *Environmental Degradation of the Black Sea: Challenges and Remedies*, S. Besiktepe, U. Unluata, and A. Bologna (eds.), NATO ASI Series, Kluwer Academic Publishers, 197-223, 1999.
84. T. Oguz, H.W. Ducklow, **P. Malanotte-Rizzoli**, J. Murray, V.I. Vedernikov, and U. Unluata, “A physical-biochemical model of plankton productivity and nitrogen cycling in the Black Sea,” *Deep-Sea Research I*, 46, 4, 597-636, 1999.

83. Bergamasco, A., T. Oguz and **P. Malanotte-Rizzoli**, "Modeling dense water mass formation and winter circulation in the Northern and Central Adriatic Sea," *J. Mar. Systems*, 20, 1-4, 125-134, 1999.
82. S. Marullo, R. Santoleri, **P. Malanotte-Rizzoli**, and A. Bergamasco, "The sea surface temperature fields in the Eastern Mediterranean from AVHRR data. Part II: Interannual variability," *J. Mar. Systems*, 20, 1-4, 83-112, 1999.
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 3. **P. Malanotte-Rizzoli**, B.D. Cornuelle and D. Haidvogel, "Gulf Stream acoustic tomography: modelling simulations," in *Ocean Modelling*, n. 45, 1982.
 2. **P. Malanotte-Rizzoli**, "Planetary solitary waves over variable relief: a unified approach," *POLYMODE News*, n. 75, 1980.
 1. Book review: "Principles of Ocean Physics," by J. Apel, *EOS*, January 1989.

PUBLICATIONS IN ITALIAN AND PROCEEDINGS OF SYMPOSIA

1. P. Malanotte-Rizzoli, "Un modello matematico della circolazione termalina del mare Adriatico," *A.I.O.L.-I*, 139-142, 1974.
2. P. Malanotte-Rizzoli and L. Alberotanza, "Modelli oceanografico: cosa sono e come possono utilizzare i dati da telerilevamento," *S.I.T.E.*, I, 245-256, 1976.

3. L. Alberotanza and P. Malanotte-Rizzoli, "L'impiego delle immagini telerilevate da satellite per l'oceanografia," CNR, Convegno dell'Oceanografia, 33-45, 1979.
4. P. Malanotte-Rizzoli and L. Alberotanza, "La modellistica della circolazione Adriatica e come puo utilizzare il telerilevamento da satellite," CNR, Convegno dell'Oceanografia, 78-82, 1977.
5. P. Malanotte-Rizzoli and A. Bergamasco, "Modellistica ecologica dell'ambiente marino," *Ingegneria Ambientale*, X, 6, 575-590, 1979.
6. P. Malanotte-Rizzoli, Onde Planetarie non lineari in Fluidi Geofisici, *Bollettino Geofisico G.N.F.A.O.-I.F.A. R. Purim and M. Severini, eds.*, 229-241, 1985.
7. P. Malanotte-Rizzoli, "L'Oceanografia Fisica negli anni '90," in *Dentro la Fisica*, G. Russo and E. Verondini, eds., CLUEB Publishers, Bologna, 73-88, 1994.
8. P. Malanotte-Rizzoli, "Numerical calculation of wave refraction in the Adriatic Sea," with R. Dazzi and M. Gacic, in "Colloque International sur l'Exploitation des Oceans," THI-G2-07-CNEXO-1-9, Bordeaux, France, 1971.
9. P. Malanotte-Rizzoli, R. Dazzi and M. Gacic, "Numerical calculation of wave refraction in the Adriatic," *Rapp. Comm. Int. Mer. Medit.*, 21, 4, 185-190, 1972.
10. P. Malanotte-Rizzoli and M.C. Hendershott, "Winter thermohaline circulation in the Adriatic Sea," *Rapp. Comm. Int. Mer. Medit.*, 22, 5, 29-33, 1973.
11. P. Malanotte-Rizzoli and M.C.Hendershott, "A mathematical model of the winter thermohaline circulation in the Adriatic Sea," *Colloques Internationaux du C.N.R.S.: Processus de formation des eaux oceaniques profondes*, Paris, France, 1974.
12. P. Malanotte-Rizzoli, "Wave prediction in shallow water," in *Physics of Oceans and Atmosphere, Part I, Vol. I*, 639-646, International Center for Theoretical Physics, Trieste, Italy, 1977.
13. P. Malanotte-Rizzoli, "Circulation modelling, with special application to the Adriatic Sea," in *Physics of Oceans and Atmosphere, Part I, Vol. II*, 646-656, International Center for Theoretical Physics, Trieste, Italy, 1977.
14. P. Malanotte-Rizzoli and G. Halikas, "Remote sensing and ocean modeling an application to the Adriatic Sea," XVIII International Symposium on Space, pp. 291-300, Rome, Italy, 1978.

REFEREE FOR:

Dynamics of Atmospheres and Oceans

Deep-Sea Research
Journal of Marine Research
Journal of Physical Oceanography
Journal of Geophysical Research
Journal of the Atmospheric Sciences
Tellus
National Science Foundation
National Oceanic Atmospheric Administration
National Aeronautics Space Administration

Courses Taught

Italy:

Physical Oceanography, Istituto Studio Dinamica Grandi Masse, Venice, Italy, and University of Padua, Padua, Italy, 1978, 1979, 1980.

Waves in the Ocean, Fall Semester courses at the Istituto di Fisica Teorica, University of Trieste, Trieste, Italy, 1976-1980.

M.I.T.

19.76 Dynamical Oceanography, 1981-1983 (G)
 19.71 Waves in the Ocean and Atmosphere, 1983-1985 (G)
 12.24 Topics in the Physics of Atmospheres and Oceans, 1984-1986 (G)
 12.21 Physics of the Oceans, 1985-1989 (U)
 12.93 Numerical Methods in Meteorology & Physical Oceanography, 1986-1988 (G)
 12.790 Introduction to Observational Physical Oceanography, 1987-1989 (G)
 12.003 Introduction to Meteorology and Physical Oceanography, 1990- (U)
 12.S11 Freshman Seminar, Physics of the Oceans, 1990-1992 (U)
 12.801 Steady Circulation of the Oceans, 1991-1993 (G)
 12.803 Quasi-balanced Circulation in Oceans and Atmospheres, 1995-1998
 12.802 Waves in the Ocean and Atmosphere, 1997-2001
 12.S.54 Freshman Seminar, The role of the ocean in Global Change, 1993-to present (U)
 12.801 Steady Circulation of the Oceans, 2003-2005 (G)
 12.950 Equatorial Oceanography, 2003 (G)
 12.802 Waves in the Ocean and Atmosphere, 2006-2008 (G)
 12.801 General circulation of the oceans, Spring 2014
 12.800 Fluid Dynamics of the Atmosphere and Oceans, Fall 2014

Student Theses Supervised as Principal Advisor

Italy - Ph.D. in Physics with Thesis in Physical Oceanography:

F. Dell'Orto, 1977
 A. Bergamasco, 1978
 V. Barale, 1978
 M. Zicarelli, 1979
 L. Bertotti, 1979

MIT - Past Undergraduate Students

Jarelyn Watanabe, Major in Physics/Oceanography, Spring 1990
 Stephen Jayne, Major in Earth Sciences/Mathematics, Spring 1994
 Elise Olson, UROP, Summer 2004
 Chris Follet, UROP, Spring 2005
 Christie Wood, Major in Mathematics/Oceanography, Spring 2005
 Nicholas Loyd, 2004 - 2005

MIT - Past Graduate Students:

Piero Malguzzi Ph.D. in Meteorology, finished Fall 1984
Coherent structures in a baroclinic atmosphere

Kevin Speer, MS in Oceanography, finished December 1985
The influence of geothermal sources on deep ocean temperature, salinity, and flow fields

Paul Hancock, MS in Meteorology, finished May 1986
An observational study of blocking with regard to the theory of coherent structures in a baroclinic atmosphere

Elizabeth Welsh, MS in Oceanography, finished May 1986
The relationship of topographic waves on the continental rise to Gulf Stream fluctuations

M. Ross Vennell, Ph.D. in Oceanography, finished July 1989
The influence of a steady baroclinic deep ocean on the shelf

David Chester, MS in Oceanography, finished May 1988
Acoustic tomography in the straits of Florida

Xiaoming Wang, Ph.D. in Oceanography, finished August 1992
Interaction of an eddy with a continental slope

David Chester, Ph.D. in Oceanography, finished January 1993
A tomographic view of the Gulf Stream southern recirculation gyre at 38°N, 55 W

James R. Gunson, MS in Oceanography, finished April 1993
Time-dependent assimilation of CTD data into an open ocean Rossby wave model

Antonietta Capotondi, finished February 1993
Assimilation of altimeter data in a quasi-geostrophic model of the Gulf Stream System: a dynamical perspective

Kirill Pankratov, Ph.D. in Oceanography, finished January 1994

Influence of topography on the dynamics of baroclinic oceanic eddies

Eric Won, MS in Oceanography, finished June 1994

Sensitivity of a general circulation inverse model to sub-grid scale parameterization coefficients

James Gunson, Ph.D. in Oceanography, finished July 1995

Estimating open-ocean boundary conditions: sensitivity studies

François Primeau, Ph.D. in Oceanography, finished June 1998

Multiple equilibria and low-frequency variability of wind-driven ocean models

Caixia Wang, MS in Oceanography, finished June 1999

Diagnosis of physical and biological controls on phytoplankton distribution in the Gulf of Maine-Georges Bank region

Mikhail Solovev, Ph.D. in Oceanography, finished July 1999

Assessment of mesoscale eddy parameterizations for coarse resolution ocean models

Ashwini Deshpande, MS in Oceanography, finished June 2000

Edge analysis of seasonal variability in chlorophyll maps of the Black Sea.

Markus Jochum, Ph.D. in Oceanography, finished March 2002.

On the pathways of the return flow of the Meridional Overturning Circulation in the tropical Atlantic.

Sarah L. Russell, Ph.D. in Oceanography, Finished February 2003

Shelf Currents, Ice and Wind: a Numerical Modeling Study.

Baylor Fox-Kemper, Ph.D. in Oceanography, Finished June 2003

Eddies and Friction: Removal of Vorticity from the Wind-Driven gyre.

Jinbo Wang, MS in Oceanography, Finished September 2008

On the warm bias along the South-West African coast in coupled models: an oceanic perspective

Jinbo Wang, PhD in Oceanography, Finished June 2011

Instabilities of an eastern boundary current with and without large-scale flow Influence

Present graduate students

Hamed D. Ibrahim, started Fall 2013

Member of the Ph.D. Thesis Committees for:Oceanography

Bruce Cornuelle, finished 1983
Rui Xin Huang, finished 1984
Stephen Meacham, finished 1984
Melinda Hall, finished 1985
Leslie Rosenfield, finished 1985
Paola Cessi, finished 1987
Eli Tziperman, finished 1987
Sophie Wacogne, finished 1988
Kevin Speer, finished 1988
Jack Barth, finished 1988
Wendy Smith, finished 1988
Stephen Rintoul, finished 1988
Lorenzo Polvani, finished 1988
Joyce Fredrerik, finished 1988
Tamara Wood, finished 1988 (MS)
Richard Signell, finished 1989
Elise Ralph, finished 1991 (MS)
Alison Macdonald, finished 1991 (MS)
Rebecca Schudlich, finished 1991
Changsheng Shen, finished 1992
Susan Wijffels, finished 1993
Cecilia Mauritzen, finished 1993
Martha O'Neil, finished 1993
Anand Gnanadesikan, finished 1994
Elise Ralph, finished 1994
Edward Dever, finished 1994
Ari Epstein, finished 1995
Alison Macdonald, finished 1995
Bingjian Ni, finished 1996
James Pringle, finished 1998
Steven Jayne, finished 1999
David Sutherland, finished 2007
Natalia Beliakova, finished 1999
Sandra Werner, finished 1999
Michael Chechelnitzsky, finished 1999
Albert Fisher, finished 2000
Linda Rasmussen, finished 2003
Rachel Stanley, finished 2007
Vikram Khade, finished 2008
Adel Ahanin, finished 2008
Jonathan Moskaitis, finished 2009
Martha Buckley, finished 2011
Wilken-Jon von Happen, finished 2013
Ping Zhai, finished June 2014

Meteorology

Richard Deininger, finished 1983
 V. Krishnamurthy, finished 1985
 Peter Neilley, finished 1990
 Robert Black, finished 1990
 Nilton Renno, finished 1992
 Michael Morgan, finished 1993

Geophysics

V. Zlotnicky, finished 1983

Ocean Engineering

Richard Pawlowicz, finished August 1993

Past Postdoctoral Fellows

Stephen Meacham, 1984-1985
 Roberta Young, 1985-1986
 Dong Shan Ko, 1987-1989
 Keith Haines, 1988-1990
 Louise Perkins, 1988-1990
 Philip Bogden, 1992-1994
 Lisan Yu, 1993-1996
 Julia Levin, 1995-1997
 Shi Jiang, 1994-1998
 Tomoko Inui, 1998-2001
 Jingxi Lu, 1999-2000
 Mark Buehner, 2000-2002
 Xiaoyun Zang, 2001-2003
 Markus Jochum, 2002-2004
 Sang Jin Lyu, 2003-2005
 Jun Wei, 2006 –2009

Past Research Scientists

Roberta Young, 1986-1998
 Jun Wei, 2009-2013

Present Postdoctoral Fellows

Danya Xu	2008-
Pengfei Xue	2012-
Yunfang Sun	2014-

Past Visiting Scientists

Andrea Bergamasco, 1987, 1988, 1990, 1991, 1992, 1993, 1994, 1997

Piero Lionello, 1988-1989

Salvatore Mazzola, 1993-1994

Temel Oguz, 1993-1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002

Maurizio Ribera, 1996-1997

Ernesto Napolitano, 1996, 1997, 1998, 2000

Gianmaria Sannino, 2004, 2005

Alessandro dell'Aquila, 2007

Sandro Calmanti, 2007