

Daniele Iudicone



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Current Position: ricercatore III° livello, Research Scientist

Current Affiliation:

Department of Integrated Marine Ecology, Stazione Zoologica Anton Dohrn, Napoli (Italy)

Education/Training/Experience

Institute and Location	Degree (if applicable)	Year	Field of Study
University "La Sapienza", Rome	Laurea in Physics	1995	Geophysics
Institute for Atmospheric Physics- CNR, Rome	CNR fellowships	1996	Variability of Mediterranean Sea circulation: satellite data
ENEA, Rome, Italy.	ENEA fellowships	1997	Variability of Mediterranean Sea circulation: cruises data
Institute for Atmospheric Physics- CNR, Rome	Research contract	1998-2001	Variability of Mediterranean Sea circulation: modelling
LODYC/LOCEAN, CNRS, Paris, France.	Research contract	2001-2002	The Southern Ocean in the global overturning
Lab. of Physical Oceanography, University of Western Brittany, France.	Visiting researcher	2000-2007 (six months)	Physical oceanography of the Southern Ocean
University of Western Brittany, France	PhD	2007	Physical oceanography of the Southern Ocean
Stazione Zoologica Anton Dohrn	Post-doc (temporary researcher)	2003-2009	Physical oceanography, bio-physical coupling.
Princeton Univ., NJ, USA	Visiting researcher	2007-2010 (intermittently)	Physical/biogeochemical oceanography of the Southern Ocean and climate
Stazione Zoologica Anton Dohrn	Researcher	2009-	Physical oceanography and marine ecology

Appointments and awards

Member of the scientific coordination of TARA Oceans 2009-2012(<http://oceans.taraexpeditions.org>), a 3-year global survey of marine biodiversity directed by major international laboratories, led by the French CNRS and the EMBL, under the auspices of the United Nations Environmental Program.

Participation to 22 Research Projects. Funding agencies: NSF (US), HFSP, European Space Agency, EU, CNRS (France), CNES (France), MIUR (Italy), Regione Campania (Italy).

Other

Member of ASLO.

Participation to 9 oceanographic cruises.

Involved in several outreach activities, including TV, radio and newspapers interviews. Participation to a documentary and to the translation of another one.

Students' Supervision

PhD supervisor of three Ph.D. students (internal supervisor, dir. of studies, external) and four Postdoctoral researchers (past and present)

Publications

Author of 40 publications on ISI-journals (June 2015) and 1 book chapter

List of publications of the last 10 years (2005-present):

Rogato A., Amato A., Iudicone D., Chiurazzi M., Ferrante M.I. & Ribera d'Alcala M. (2015) The diatom molecular toolkit to handle nitrogen uptake, *Marine Genomics* doi:10.1016/j.margen.2015.05.018

Pesant S., et al. (including D. Iudicone) (2015) Open science resources for the discovery and analysis of Tara Oceans data. *Scientific Data* doi:10.1038/sdata.2015.23.

Villar E., et al. (D. Iudicone is the last name) (2015) Environmental characteristics of Agulhas rings affect inter-ocean plankton transport. *Science* doi:10.1126/science.1261447.

Sunagawa S., et al. (including D. Iudicone) (2015) Structure and Function of the Global Ocean Microbiome. *Science* doi:10.1126/science.1261359.

Lima-Mendez G., et al. (including D. Iudicone) (2015) Top-down determinants of community structure in the global plankton interactome. *Science* doi:10.1126/science.1262073.

de Vargas C., et al. (including D. Iudicone) (2015) Eukaryotic plankton diversity in the sunlit global ocean. *Science* doi:10.1126/science.1261605.

Brum J.R., et al. (including D. Iudicone) (2015) Global patterns and ecological drivers of ocean viral communities. *Science* doi:10.1126/science.1261498.

Pascual A., Ruiz S., Buongiorno Nardelli B., Guinehut S., Iudicone D. & Tintoré J. (2015) Net primary production in the Gulf Stream sustained by quasi-geostrophic vertical exchanges, *Geophys. Res. Lett.* 42:441–449, doi:10.1002/2014GL062569.

- Olivieri S., Picano F., Sardina G., Iudicone D. & Brandt L. (2014) The effect of the Basset history force on particle clustering in homogeneous and isotropic turbulence. *Phys. of Fluids* 26:(4).
- Rodgers K.B., Aumont O., Mikaloff Fletcher S.E., Plancherel Y., Bopp L., De Boyer Montégut C., Iudicone D., Keeling R.F., Madec G. & Wanninkhof R. (2014) Strong sensitivity of Southern Ocean carbon uptake and nutrient cycling to wind stirring. *Biogeosciences*, 11 (15):4077-4098.
- Scalco E., Stec K., Iudicone D., Ferrante M.I. & Montresor M. (2014) The dynamics of sexual phase in the marine diatom *Pseudo-nitzschia multistriata* (Bacillariophyceae). *J. of Phycology* 50 (5):817-828.
- Zika J. D., Le Sommer J., Dufour C.O., Molines J.-M., Barnier B., Brasseur P., Dussin R., Iudicone D., Lenton A., Madec G., Mathiot P., Orr J., Penduff T., Shuckburgh E. & Vivier F. (2013) Vertical Eddy Fluxes in the Southern Ocean. *J. of Phys. Oceanogr.* 43:941-955.
- Liccardo A., Fierro A., Iudicone D., Bouruet-Aubertot P. & Dubroca L. (2013) Response of the deep chlorophyll maximum to fluctuations in vertical mixing intensity, *Progress in Oceanogr.* 109:33-46, 10.1016/j.pocean.2012.09.004.
- Séférian R., Iudicone D., Bopp L., Roy T. & Madec G. (2012) Water mass analysis of effects of climate change on air-sea CO₂ fluxes: the Southern Ocean. *J. Climate* 25: 3894–3908.
- Iermano I., Liguori G., Iudicone D., Buongiorno Nardelli B., Colella S., Zingone A., Saggiomo V. & Ribera d'Alcalà M. (2012) Wind-driven filament formation and evolution in buoyant coastal waters: observation and modeling. *Progress in Oceanography* 106: 118-137
- Iudicone D., Rodgers K.B., Stendardo I., Aumont O., Madec G., Bopp L., Mangoni O., & Ribera d'Alcala' M. (2011) Water masses as a unifying framework for understanding the Southern Ocean Carbon Cycle, *Biogeosciences* 8:1031-1052, doi:10.5194/bg-8-1031-2011.
- Karsenti E., et al. (including D. Iudicone) (2011) A Holistic Approach to Marine Eco-Systems Biology. *PLoS Biol* 9(10): e1001177, doi:10.1371/journal.pbio.1001177.
- Rodgers K. B., Mikaloff-Fletcher S. E., Bianchi D., Beaulieu C., Galbraith E. D., Gnanadesikan A., Hogg A. G., Iudicone D., Lintner B. R., Naegler T., Reimer P. J., Sarmiento J. L., & Slater R. D. (2011) Interhemispheric gradient of atmospheric radiocarbon reveals natural variability of Southern Ocean winds, *Clim. Past* 7:1123-1138, doi:10.5194/cp-7-1123-2011.
- Vivier F., D. Iudicone, F. Busdraghi & Y.H. Park. (2010) Dynamics of sea-surface temperature anomalies in the Southern Ocean diagnosed from a 2D mixed-layer model, *Climate Dynamics* 34:153-184.
- Dutay J.C., Emile-Geay J., Iudicone D., Jean-Baptiste P., Madec G., & Carouge C. (2010) Helium isotopic constraints on simulated ocean circulations: implications for abyssal theories. *Environmental Fluid Mechanics* 10:1-2257-2273.
- Mariani P., MacKenzie B. R., Iudicone D., & Bozec A. (2010) Modelling retention and dispersion mechanisms of bluefin tuna eggs and larvae in the Northwest Mediterranean Sea, *Progress in Oceanogr.* 86:45-58.
- Zingone A., Dubroca L., Iudicone D., Margiotta F., Corato F., Ribera d'Alcalà M., Saggiomo V., & Sarno D. (2009) Coastal phytoplankton do not rest in winter. *Estuaries and Coasts* 33:342-361.
- Falcini F., Iudicone D., & Salusti E. (2009) Potential vorticity estimates of absolute velocities on the Ross Sea shelf. *Deep Sea Res. Part I* 56:314-329.

- Esposito S., Botte V., Iudicone D., & Ribera d'Alcalà M. (2009) Numerical analysis of cumulative impact of phytoplankton photoresponses to light variation on carbon assimilation. *J. of Theor. Biol.* 261:361-371.
- Koch-Larrouy A., Madec G., Iudicone D., Atmadipoera A. & Molcard R. (2008) Physical processes contributing to the water mass transformation of the Indonesian ThroughFlow, *Ocean Dyn.* 58:275-288.
- Iudicone D., Speich S., Madec G., & Blanke B. (2008) The global Conveyor Belt from a Southern Ocean perspective, *J. of Phys. Oceanogr.* 38:1401-1425.
- Iudicone D., Madec G., & McDougall T.J. (2008) Water-mass transformations in a neutral density framework and the key role of light penetration. *J. of Phys. Oceanogr.* 38:1357–1376.
- Iudicone D., Madec G., Blanke B., & Speich S. (2008) The role of Southern Ocean surface forcings and mixing in the global conveyor. *J. of Phys. Oceanogr.* 38:1377-1400.
- Bozec A., Bouruet-Aubertot P., Iudicone D., & Crépon M. (2008) Impact of penetrative solar radiation on the diagnosis of water mass transformation in the Mediterranean Sea., *J. of Geophys. Res.* C06012, doi:10.1029/2007JC004606.
- Iudicone D., Rodgers K.B., Schopp R., & Madec G. (2007) An Exchange Window for the Injection of Antarctic Intermediate Water into the South Pacific. *J. of Phys. Oceanogr.* 37:31-49.
- Denaro F. M., De Stefano G., Iudicone D., & Botte V., (2007) A finite volume dynamic large-eddy simulation method for buoyancy driven turbulent geophysical flows, *Ocean Model.* 17:199-218.
- D'Ortenzio, F., Iudicone D., de Boyer Montégut C., Testor P., Antoine D., Marullo S., Santoleri R., & Madec G. (2005) Seasonal variability of the mixed layer depth in the Mediterranean sea as derived from in situ profiles, *Geophys. Res. Lett.* 32:L12605, doi:10.1029/2005GL022463.