

Curriculum Vitae et Studiorum

Rosalia Santoleri

Personal Details

Nationality: Italy

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Actual Position

- Acting Director of Institute of Marine Sciences (ISMAR) Venice; ISMAR is the largest Marine Research Institute of Italian National Research Council (200 permanent staff and additional 100 researchers paid by contracts)
- Head of the Ocean Satellite monitoring and marine ecosystem studies group (GOS)
- President of the Italian Oceanographic Commission, National body of the Intergovernmental Oceanographic Commission (IOC) of UNESCO.
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Education

1981: Laurea in Dottor in Physics at University of Rome “La Sapienza”; 110/110 cum laude;

1981: Fellowship on air sea interaction processing. University of Washington, Washington, USA;

1982: Research Assistant Fellowship at NATO ASW SACLANT Research Centre, La Spezia.

Professional experience

1981-1984 Research Assistant at University of Rome La Sapienza. In charge on acquisition processing and analysis of analysis of hydrological data and baroclinic instabilities studies.

1984–1995 Researcher at CNR-IFA (Institute of Atmospheric Physics). In charge of air-sea interaction and physical oceanography studies. Coordination of Italian National Project and Italian Space Agency Projects

1995-2012 Senior Researcher and Head of the Satellite Oceanography Group (GOS) of the Institute of Atmosphere and Climate (ISAC) of the National Research Council (CNR). Research in: satellite oceanography, physical oceanography, air-sea interaction, climate variability, satellite calibration/validation activities.

1995-2012 Responsible of the ISAC HRPT satellite acquisition system.

1997-2004 Responsible of the ISAC SeaWiFS realtime direct readout station (HROM) one of the 11 NASA authorized stations worldwide.

1997- 2006 Responsible, for the Italian Space Agency, of the Italian ocean colour validation and calibration activity for SeaWiFS, MODIS and MERIS.

2002-present Responsible of the near real time SST and ocean color Mediterranean satellite observing system in the framework of the Mediterranean Oceanography Network for the Global Ocean Observing System (MONGOOS previous MOON).

2006- 2011 Scientific coordinator the Italian effort to develop the National monitoring system for oil-spill detection and dispersion forecasting. R. Santoleri was coordinator of the ASI Project OLIO Preliminary Project aiming to design the National oil-spill monitoring system and the Scientific

coordinator of the PRIMI project that has developed the system and run the pre-operational service.

2009-2010 Scientific Coordinator of the Italian Space Agency CoastSat Project (CoastSat- Gestione del Rischio Costiero). CoastSat designed the monitoring system for coastal risk management.

2009- 2015 Leader of the Ocean Colour Thematic Assembling center of the GMES/Copernicus Marine Core Service in the framework of GMES FP7 MyOcean Projects

2009- 2015 Responsible of the Sea Surface Temperature Mediterranean and Black Sea production center of the GMES/Copernicus Marine Core Service in the framework of GMES FP7 MyOcean Projects

2012-2019 Head of the Ocean Satellite monitoring and marine ecosystem studies group of the CNR Institute of Atmosphere and Climate (ISAC) National Research Council (CNR): physical oceanography, satellite oceanography, operational oceanography, physical-biological interaction, air-sea interaction, numerical modelling, lagrangian modelling. a The group comprising 25 researchers with additional visitors and students.

2014-present President of the Italian Oceanographic Commission (COI), National body of the Intergovernmental Oceanographic Commission (IOC) of UNESCO.

2015-present Coordinator of the Ocean Colour Thematic Assembling Center service of the Copernicus Marine Environmental Service (CMEMS).

2015-2018 Responsible of the CMEMS CNR Dissemination Units which is providing access to the CMEMS satellite SST, wind, Ocean colour products for global ocean and European Seas (Arctic, Baltic, North Atlantic, Mediterranean Sea and Black Sea).

2015-present Coordinator & Responsible of CNR-Italian Ministry of Environment governmental agreement for national implementation of European Marine Strategy Framework of Directive

2017-present Coordinator of the Project Quality Assessment of ECV Products of the Copernicus Climate Change Service (C3S_511)

Cruises: 25 scientific cruises between 1981-2014 (Mediterranean Sea). Chief scientist: 15 times.

Visiting scientist at: l'University of Washington, AT&T Bell Laboratories, North Carolina State University, Massachusetts Institute of Technology, Rosenstiel School of Marine and Atmospheric Sciences-University of Miami.

National, International and Advisory Committees

1988-1993 Member of the Scientific Advisory Board of the CNR Institute of Atmospheric Physics

2001-2003 Member of the steering committee of the European project ADIOS.

2000-2005 Member of the Organizing Committee of the International conference on Remote Sensing of the SPIE – The International Society for Optical Engineering

2003-2005 Member of Italian Space Agency Scientific Working Group created by the Italian Space Agency to define the National Space Research Plan 2003-2005.

2004 Member of ESA Expert Panel on "Definition of scenarios and roadmap for operational oceanography". This Panel designed the requirements for Sentinel-3 mission

2005-2008 Member of Marine Board Working Group of the European Science Foundation on Remote Sensing of Shelf Sea Ecosystems

2006-2014 Member of the steering committee and of the Operational advisory Group the Mediterranean Operational Oceanography Network (MOON)

2005- 2014 Chair of the Scientific Board of the National Group of Operational Oceanography (GNOO)

2006-2012 Member of the Scientific Advisory Board of the National Research Council Earth and Environment Department

2007-present Member of the EuroGOOS, CNR Representative

2007-2015 IUGG/IAPSO Italian National representative

2008-2014 Member of the Italian Oceanographic Commission, National body of the Intergovernmental Oceanographic Commission (IOC) of UNESCO

2009- 2015 Member of the EU FP7 MyOcean, MyOcean2 and MyOcean FO Executive Committee

2011-present Member of the CNR Oceanographic Infrastructure Committee. This committee has the mandate to set-up priorities for development & maintenance the in situ component CNR marine observing system: (eg. ships, buoys, gliders, etc)

2011-present Member of the EO Science team of the ESA Ocean Colour Climatic Initiative Project

2012-present Expert Member of the Global Ocean Observing System (GOOS) Steering Committee, established by UNESCO/IOC to design the next generation of the global Ocean Observing system.

2013- present Member on behalf of CNR of the Board of Directors EuroGOOS AISBL International Non-Profit Organisation committed to European-scale operational oceanography

2013- present Member of Sentinel-3 Ocean Colour sub-group Validation Team established by of ESA and EUMESAT

2013- present Member of Sentine-3 Working Group on Quality Indicator established by ESA and EUMETSAT Sentinel-3 Mission Advisory Group

2013-present: Member of the Sentinel-3 Validation Team and of S3VT Ocean Colour sub-group of ESA for thr validation of the Sentinel-3 OLCI sensor.

2015-present Member of the EuroGOOS Executive Directors Board. The Board is composed of a Chair and 7 members, appointed by the Annual Meeting and has the mandate to manage the organization.

2014-present President of the Italian Oceanographic Commission, National body of the Intergovernmental Oceanographic Commission (IOC) of UNESCO

2015-present Member of the International Ocean-Colour Coordinating Group (IOCCG) Executive Committee. The board has mandate to steering and coordinate the activities of the IOCCG

2015 –present Member of Italian Space Agency Committee for Earth Observation Programs

2016-present Member of the Global High Resolution Sea Surface Temperature (GHRSSST) Science Team. GHRSSST science team provides the intellectual guidance to GHRSSST

2017-present: Member of the Italian G7 scientific panel on “Future of the Ocean and the Sea” established by the Italian Minister of Research.

2017- present: Member of the GEO Board representing IOC GOOS.

2017-2019 Member of IOC Executive Council

2018- present: Copernicus Imagery Microwave Radiometer (CIMR) Mission Advisory Group (MAG)

Member of the editorial board

2000-2005: Remote Sensing of the Ocean and Sea Ice (SPIE, USA);

2010-present: Advances in Oceanography and Limnology (Taylor & Francis UK);

2012-present: Dataset Papers in Geosciences (Hindawi Publishing Corporation);

2018-present: Remote Sensing (Multidisciplinary Digital Publishing Institute)

Personal skill and competence

Rosalia Santoleri is a physical oceanographer, She has more 30 years of experience on physical oceanography, marine circulation, satellite oceanography climate variability, physical-biological interaction, satellite oceanography, air-sea interaction, satellite and model data qualification and validation. Since 1999 she is also strongly involved in European operational oceanography effort, contributing to the development of Mediterranean Observing System in the framework of MOON and MONGOOS. In the framework of GMES/Copernicus Marine Core Service Projects (MyOcean, MyOcean2, MyOcean FO) she was responsible of the developing and implementation of the Ocean Colour Thematic Assembling Centre and contribute to the design of CMEMS system of systems.

In the 2012 she has been selected by IOC to be part of the GOOS Steering Committee which has the mandate of designing and implementation of the global observing system of the next 20 years. Since 2014 she is President of the Italian Oceanographic Commission (COI), Italian National Coordination Body foreseen by the Intergovernmental Oceanographic Commission (IOC).

Coordination of National, International Projects

2005-present: Responsible of more than 50 national and international scientific projects.

1999-now: Coordinator of 16 national and international (EU, ESA) scientific projects.

- Principal investigator or Co-investigator in projects in response of the AO of ERS-1 (ESA), ERS-2 (ESA), SeaWiFS (NASA), ENVISAT (ESA), SIMBIOS (NASA), ESA Cat-1 Project on SST and ocean colour data merging, ESA Cat-1 Project on oil spill satellite detection, ESA-EUMETSAT Sentinel 3 CAL/VAL Cat-1 Project.

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- **Recent Projects lead by RS:**

EU CMEMS OCTAC (2015-2018) Coordinator of the Ocean Colour Operational service for global ocean and European Sea, Dissemination Unit of all global and regional OC products. Budget: €2.500.000

EU C3S_511 (2017-2020) Coordinator & Service Manager of Copernicus Climate Service on Quality Assessment of ECV Products. Budget: €5.000.000

EU 77-CMEMS-TAC-OC (2018-2021) Coordinator of the Ocean Colour Operational service for global ocean and European Sea, Dissemination Unit of all global and regional OC products. Budget: €2.900.000

EU 78-CMEMS-TAC-SST (2018-2021) Contract Manager & Scientific Expert. Sea Surface Temperature service for global ocean and European Sea. Budget: €1.900.000

EU 85-OD-MF-CMEMS LOT1, Contract Manager & Scientific Expert. Dissemination service of the NRT observational data and model forecasts of the global ocean and the European Seas. Budget: €1.681.640

EU 85-OD-MF-CMEMS LOT2. Contract Manager & Scientific Expert. Dissemination service of ocean reanalysis for the global ocean and the European Seas. Budget: €1.681.640

- RS is the **Coordinator** of the **CNR-Ministry of Environment** inter-governmental agreement for **national implementation of European Marine Strategy Framework of Directive**. Budget: €7.600.000

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- **Teaching**

Advisor more than 20 MSc and 10 PhD thesis projects in liaison with the University of La Sapienza, Roma 3, Roma 2, Pisa, Parthenope, Aquila. Advisor of ESA and EU Marie-Curie Post-doc fellowship

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- **Publications**

- R. Santoleri is author or co-author of more than 150 publications in the internationally referred literature.
- Full publication list at: <https://scholar.google.com/citations?user=lfN0FZUAAAAJ&hl=en>
- Career citations of 3384, h-index 31, i10-idex 78, 163 citations for most cited paper (June 2019)

List of most recent Publications (2015-2019):

- D. Ciani, M.-H.Rio, M. Menna and **R. Santoleri** (2019) A Synergetic Approach for the Space-Based Sea Surface Currents Retrieval in the Mediterranean Sea. **Remote Sens.**, 11(11), 1285; <https://doi.org/10.3390/rs11111285>
- Lacorata, G., Corrado, R., Falcini, F. and **Santoleri, R.** (2019). FSLE analysis and validation of Lagrangian simulations based on satellite-derived GlobCurrent velocity data. **Remote Sensing of Environment**, 221, pp.136-143.
- Le Traon, P. Y., Reppucci, A., Alvarez Fanjul, E., Aouf, L., Behrens, A., Belmonte, M., ... **R. Santoleri** Benkiran, M. (2019). From observation to information and users: the Copernicus Marine Service perspective. *Frontiers in Marine Science*, 6, 234.
- Gianluca Volpe, Simone Colella, Vittorio Brando, Vega Forneris, Flavio La Padula, Annalisa Di Cicco, Michela Sammartino, Marco Bracaglia, Florinda Artuso, and **R. Santoleri** (2019). The Mediterranean Ocean Colour Level 3 Operational Multi-Sensor Processing. **Ocean Science**. <https://doi.org/10.5194/os-2018-73>
- M.-H.Rio and R. Santoleri (2018). Improved global surface currents from the merging of altimetry and Sea Surface Temperature data. **Remote Sensing of Environment**, Volume 216, October 2018, Pages 770-785, <https://doi.org/10.1016/j.rse.2018.06.003>.
- Droghei, R., Buongiorno Nardelli, B. and **Santoleri, R.** (2018). A New Global Sea Surface Salinity and Density Dataset From Multivariate Observations (1993–2016). **Frontiers in Marine Science**, 5, p.84.
- Torri, M., Corrado, R., Falcini, F., Cuttitta, A., Palatella, L., Lacorata, G., ... & **Santoleri, R.** (2018). Planktonic stages of small pelagic fishes (*Sardinella aurita* and *Engraulis encrasicolus*) in the central Mediterranean Sea: The key role of physical forcings and implications for fisheries management. **Progress in Oceanography**, 162, 25-39.
- Karina von Schuckmann, Pierre-Yves Le Traon,, **Rosalia Santoleri**, ...& Hao Zuo (2018). Copernicus Marine Service Ocean State Report. **Journal of Operational Oceanography**, 11:sup1, S1-S142, DOI: 10.1080/1755876X.2018.1489208.
- Pitarch J, Ruiz-Verdu A, Sendra MD, **Santoleri R** (2017). Evaluation and reformulation of the maximum peak height algorithm (MPH) and application in a hypertrophic lagoon. **JOURNAL OF GEOPHYSICAL RESEARCH. OCEANS**, vol. 122, p. 1206-1221, ISSN: 2169-9275, doi: 10.1002/2016JC012174
- Pitarch J, Ruiz-Verdu A, Sendra MD, **Santoleri R** (2017). Evaluation and reformulation of the maximum peak height algorithm (MPH) and application in a hypertrophic lagoon. **JOURNAL OF GEOPHYSICAL RESEARCH. OCEANS**, vol. 122, p. 1206-1221, ISSN: 2169-9275, doi: 10.1002/2016JC012174.
- Corrado R, Lacorata G, Palatella L, **Santoleri R**, Zambianchi E (2017). General characteristics of relative dispersion in the ocean. **SCIENTIFIC REPORTS**, vol. 7, ISSN: 2045-2322, doi: 10.1038/srep46291.
- Di Cicco, A., Sammartino, M., Marullo, S., & Santoleri, R. (2017). Regional empirical algorithms for an improved identification of Phytoplankton Functional Types and Size Classes in the Mediterranean Sea using satellite data. **Frontiers in Marine Science**, 4, 126.
- Ciani, D., Carton, X., Aguiar, A. B., Peliz, A., Bashmachnikov, I., Ienna, F., ... & Santoleri, R. (2017). Surface signature of Mediterranean water eddies in a long-term high-resolution simulation. **Deep Sea Research Part I: Oceanographic Research Papers**, 130, 1
- Pitarch J, Volpe G, Colella S, **Santoleri R**, Brando V (2016). Absorption correction and phase function shape effects on the closure of apparent optical properties. **APPLIED OPTICS**, vol. 55, p. 8618-8636, ISSN: 1559-128X, doi: 10.1364/AO.55.008618.
- Pisano A, De Dominicis M, Biamino W, Bignami F, Gherardi S, Colao F, Coppini G, Marullo S, Sprovieri M, Trivero R, Zambianchi E, **Santoleri R** (2016). An oceanographic survey for oil spill monitoring and model forecasting validation using remote sensing and in situ data in the Mediterranean Sea. **DEEP-SEA RESEARCH. PART 2. TOPICAL STUDIES IN OCEANOGRAPHY**, vol. 133, p. 132-145, ISSN: 0967-0645, doi: 10.1016/j.dsr2.2016.02.013.

- Rio MH, **Santoleri R**, Bourdalle-Badie R, Griffa A, Piterbarg L, Taburet G (2016). Improving the Altimeter-Derived Surface Currents Using High-Resolution Sea Surface Temperature Data: A Feasibility Study Based on Model Outputs. **JOURNAL OF ATMOSPHERIC AND OCEANIC TECHNOLOGY**, vol. 33, p. 2769-2784, ISSN: 0739-0572, doi: 10.1175/JTECH-D-16-0017.1.
- Bellacicco M, Volpe G, Colella S, Pitarch J, **Santoleri R** (2016). Influence of photoacclimation on the phytoplankton seasonal cycle in the Mediterranean Sea as seen by satellite. **REMOTE SENSING OF ENVIRONMENT**, vol. 184, p. 595-604, ISSN: 0034-4257, doi: 10.1016/j.rse.2016.08.004. (IF= 6.457).
- Droghei R, Nardelli BB, **Santoleri R** (2016). Combining In Situ and Satellite Observations to Retrieve Salinity and Density at the Ocean Surface. **JOURNAL OF ATMOSPHERIC AND OCEANIC TECHNOLOGY**, vol. 33, p. 1211-1223, ISSN: 0739-0572, doi: 10.1175/JTECH-D-15-0194.1.
- Lanotte AS, Corrado R, Palatella L, Pizzigalli C, Schipa I, **Santoleri R** (2016). Effects of vertical shear in modelling horizontal oceanic dispersion. **OCEAN SCIENCE**, vol. 12, p. 207-216, ISSN: 1812-0784, doi: 10.5194/os-12-207-2016.
- Rinaldi E, Orasi A, Morucci S, Colella S, Inghilesi R, Bignami F, **Santoleri R** (2016). How can operational oceanography products contribute to the European Marine Strategy Framework Directive? The Italian case. **JOURNAL OF OPERATIONAL OCEANOGRAPHY**, vol. 9, p. S18-S32, ISSN: 1755-876X, doi: 10.1080/1755876X.2015.1114807.
- Colella S, Falcini F, Rinaldi E, Sammartino M, **Santoleri R** (2016). Mediterranean Ocean Colour Chlorophyll Trends. **PLOS ONE**, vol. 11, ISSN: 1932-6203, doi: 10.1371/journal.pone.0155756.
- Nardelli BB, Droghei R, **Santoleri R** (2016). Multi-dimensional interpolation of SMOS sea surface salinity with surface temperature and in situ salinity data. **REMOTE SENSING OF ENVIRONMENT**, vol. 180, p. 392-402, ISSN: 0034-4257, doi: 10.1016/j.rse.2015.12.052.
- Bohm E, Riminucci F, Bortoluzzi G, Colella S, Acri F, **Santoleri R**, Ravaioli M (2016). Operational use of continuous surface fluorescence measurements offshore Rimini to validate satellite-derived chlorophyll observations. **JOURNAL OF OPERATIONAL OCEANOGRAPHY**, vol. 9, p. S167-S175, ISSN: 1755-876X, doi: 10.1080/1755876X.2015.1117763.
- Pitarch J, Volpe G, Colella S, Krasemann H, **Santoleri R** (2016). Remote sensing of chlorophyll in the Baltic Sea at basin scale from 1997 to 2012 using merged multi-sensor data. **OCEAN SCIENCE**, vol. 12, p. 379-389, ISSN: 1812-0784, doi: 10.5194/os-12-379-2016.
- Marullo S, Minnett PJ, **Santoleri R**, Tonani M (2016). The diurnal cycle of sea-surface temperature and estimation of the heat budget of the Mediterranean Sea. **JOURNAL OF GEOPHYSICAL RESEARCH. OCEANS**, vol. 121, p. 8351-8367, ISSN: 2169-9275, doi: 10.1002/2016JC012192.
- Pisano A, Nardelli BB, Tronconi C, **Santoleri R** (2016). The new Mediterranean optimally interpolated pathfinder AVHRR SST Dataset (1982-2012). **REMOTE SENSING OF ENVIRONMENT**, vol. 176, p. 107-116, ISSN: 0034-4257, doi: 10.1016/j.rse.2016.01.019 ((IF= 6.457).
- Droghei R, Falcini F, Casalbore D, Martorelli E, Mosetti R, Sannino G, **Santoleri R**, Chiocci FL (2016). The role of Internal Solitary Waves on deep-water sedimentary processes: the case of up-slope migrating sediment waves off the Messina Strait. **SCIENTIFIC REPORTS**, vol. 6, ISSN: 2045-2322, doi: 10.1038/srep36376.
- Pitarch J, Bellacicco M, Volpe G, Colella S, **Santoleri R** (2016). Use of the quasi-analytical algorithm to retrieve backscattering from in-situ data in the Mediterranean Sea. **REMOTE SENSING LETTERS**, vol. 7, p. 591-600, ISSN: 2150-704X, doi: 10.1080/2150704X.2016.1171922.
- O'Dowd C, Ceburnis D, Ovadnevaite J, Bialek J, Stengel D B., Zacharias Merry, Nitschke Udo, Connan S, Rinaldi M, Fuzzi S Decesari S, Facchini M C, Marullo S, **Santoleri R**, Dell'Anno A, Corinaldesi C, Tangherlini M, Danovaro R (2015). Connecting marine productivity to sea-spray via nanoscale biological processes: Phytoplankton Dance or Death Disco?. **SCIENTIFIC REPORTS**, vol. 5, ISSN: 2045-2322, doi: 10.1038/srep14883
- Nardelli B. Buongiorno, Pisano A, Tronconi C, **Santoleri R** (2015). Evaluation of different covariance models for the operational interpolation of high resolution satellite Sea Surface Temperature data over the Mediterranean Sea. **REMOTE SENSING OF ENVIRONMENT**, vol. 164, p. 334-343, ISSN: 0034-4257, doi: 10.1016/j.rse.2015.04.025

- Pisano A, Bignami F, **Santoleri R** (2015). Oil Spill Detection in Glint-Contaminated Near-Infrared MODIS Imagery. **REMOTE SENSING**, vol. 7, p. 1112-1134, ISSN: 2072-4292, doi: 10.3390/rs70101112
- Sammartino M, Di Cicco A, Marullo S, Santoleri R (2015). Spatio-temporal variability of micro-, nano- and pico-phytoplankton in the Mediterranean Sea from satellite ocean colour data of SeaWiFS. **OCEAN SCIENCE**, vol. 11, p. 759-778, ISSN: 1812-0784, doi: 10.5194/os-11-759-2015
- Falcini F, Palatella L, Cuttitta A, Nardelli Bruno B, Lacorata G, Lanotte A S, Patti B, Santoleri R (2015). The Role of Hydrodynamic Processes on Anchovy Eggs and Larvae Distribution in the Sicily Channel (Mediterranean Sea): A Case Study for the 2004 Data Set. **PLOS ONE**, vol. 10, ISSN: 1932-6203, doi: 10.1371/journal.pone.0123213
- P-Y Le Traon, D Antoine, Abderrahim Bentamy, H Bonekamp, LA Breivik, Bertrand Chapron, G Corlett, G Dibarboure, P DiGiacomo, C. Donlon, Y. Faugère, J Font, F Girard-Ardhuin, F. Gohin, JA Johannessen, M Kamachi, G Lagerloef, J. Lambin, G. Larnicol, P Le Borgne, E Leuliette, E Lindstrom, MJ Martin, E Maturi, L Miller, L Mingsen, R Morrow, N. Reul, MH Rio, H. Roquet, **R. Santoleri**, J Wilkin, (2015) Use of satellite observations for operational oceanography: recent achievements and future prospects. **Journal of Operational Oceanography**, 8(sup1), s12-s27.
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