



VIVIANA PIERMATTEI

Global Coastal Ocean Division
CMCC Foundation - Euro-Mediterranean Center on Climate Change, Italy
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Research Unit Civitavecchia Harbour
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CURRENT POSITION

2023 - ONGOING

SCIENTIST

GLOBAL COASTAL OCEAN DIVISION - CMCC

Lead Scientist of 'Advanced Observing Systems' Research Unit (OPA Division and GOCO Division).

Expert in the development of oceanographic technologies and low-cost sensors, in oceanographic platforms, and in the implementation of observational systems.

Coordinator of the project:

- Horizon Europe CS-MACH1 - Marine Citizen science data Horizon, under the Call HORIZON-MISS-2024-OCEAN-01-04 — Science for Community – Building the marine Citizen Science data network of the future to valorise data coming from the ocean and increase engagement

CMCC Scientific Responsible for the projects:

- ALIENA - ALIghning Efforts to control Non-indigenous species in the Adriatic sea
- MYSEA - Torre Guaceto2 - Monitoraggio per la valutazione degli areali di distribuzione delle tartarughe marine
- TURTLE TAG PORTO CESAREO - Progetto turtle tag area marina protetta di porto cesareo

CMCC Other Scientific Responsibilities for the projects:

- RENOVATE – Leader WP 8 water column monitoring and coastal dynamics
- FIUMICINO – Leader Environmental monitoring activities

Participation at the projects:

- ACTNOW – WP2
- Adriacim Plus
- Life ClimaxPo
- Greenbridge-Eolico Offshore

Support the GOCO Division Director in the relations with the Port System Authority of the Central Northern Tyrrhenian Sea, which brought to the Agreement between CMCC and Port Authority and to the assignment of RENOVATE and FIUMICINO projects.

Participation in the MONGOOS Observing System Group.

Participation in the PredictOnTime UN Decade Team.

PROFESSIONAL EXPERIENCE

2019 - 2023

COLLABORATION CONTRACTS

OPA DIVISION CMCC

Participation in the CMCC projects:

- Adriacim
- Cascade
- Stream
- EuroSea
- SAGACE

2016 – 2020

CMCC AFFILIATION

2010 - 2023

SCIENTIST/TECHNICIAN

LABORATORY OF EXPERIMENTAL OCEANOLOGY AND MARINE ECOLOGY (DEB) UNIVERSITY OF TUSCIA

Indefinite term contract to coordinate the Observation and Technological Development Group.

Participation in the projects:

- ASI-STOPP
- PON FISH-RISE
- Life SEAFOREST
- Addendum 2-3-4 with Port Authority
- Adricosm
- FP7 MARINE
- PNRA projects
- RSE Projects (agreements 2011-2021): development and test of a wave energy device to be installed in the Civitavecchia harbour.

2004 - 2010

SCHOLARSHIP

LABORATORY OF EXPERIMENTAL OCEANOLOGY AND MARINE ECOLOGY (DEB) UNIVERSITY OF TUSCIA

Support the Observation and Technological Development Group. Scientist in Marine Observing Systems.

Participation in the projects:

- MFSTEP
- Adricosm
- National projects (funded by Port Authority, NGOs, Environmental Ministry)

EDUCATION

2017

PHD IN ECOLOGY AND SUSTAINABLE MANAGEMENT OF ENVIRONMENTAL RESOURCES

- Institute: University of Tuscia
- Thesis title: Sviluppo ed applicazione di strumentazione low-cost per lo studio della biomassa fitoplanctonica'
- Supervisor: Prof. Marco Marcelli

2013

MASTER DEGREE IN MARINE ENVIRONMENTAL SCIENCES

- Institute: University of Tuscia
- Thesis title: Implementation and application of new technologies for marine environmental research
- Supervisor: Prof. Marco Marcelli
- Score: 110/110 cum laude

ADDITIONAL EXPERIENCES

2023

NATIONAL SCIENTIFIC HABILITATION

BANDO D.D. 553/2021 SETTORE CONCORSUALE 04/A4 GEOFISICA

2002-ONGOING

Daily cruises for monitoring activities onboard research vessels; MEDESS4MS exp, Serious Game; in collaboration with the Italian Coast Guard, CP567; IOSMOS 2 Oceanographic Survey; IOSMOS 1 Oceanographic Survey; Clam-Phym Oceanographic Survey, R/V Dallaporta; ADR02_08 Oceanographic Survey, R/V Urania, Adriatic Sea – Montenegro; ICRAM monitoring activities for the characterization of the water column within SA.PE.I submarine cable project; MEDBIO06 - MEDGOOS 13 Oceanographic Survey, R/V Urania, Central and West Mediterranean Sea; MEDGOOS 11 – TRANSMED Oceanographic Survey, R/V Urania, Tyrrhenian Sea; SAMCA MedBio Oceanographic Survey, R/V Urania, Mediterranean Sea; MedGOOS 9 Oceanographic Survey, R/V Urania, Mediterranean Sea; MedGOOS 8 Oceanographic Survey, R/V Urania, Mediterranean Sea; MedGOOS 6 Oceanographic Survey, R/V Urania, Mediterranean Sea; MEDGOOS 5 Oceanographic Survey, R/V Urania, Mediterranean Sea; MEDGOOS 4 Oceanographic Survey, R/V Urania, Mediterranean Sea.

PEER-REVIEWED PAPER

Last 10 Years

- Martinez Osuna, J. F., Piermattei, V., Coppini, G., & Marcelli, M. (2025). Low-cost water level measurement technologies for assessing the impact of climate change and storm surges in coastal areas, suitable for citizen science initiatives. *Frontiers in Marine Science*, 12, 1604069.
- Bosch-Belmar M., Mancuso F.P., Tantillo M.F., Russi M., Piermattei V., Piazzolla D., Madonia A., Marcelli M., Sarà G. 2025, Metabolic traits and thresholds to inform marine ecological conservation and restoration. *Journal of Applied Ecology*, doi: 10.1111/1365-2664.70049
- Massi L., Nuccio C., Melillo C., Becagli S., Mori G., Verdiani L., Bonamano S., Madonia A., Piermattei V., Marcelli M., Lazzara L. 2025, Phytoplankton taxonomic composition, nutrients utilization and biogeochemistry in the upper mixed layer in the coastal area of the Terra Nova Bay, Ross Sea, Antarctica. *Frontiers in Marine Science*, doi: 10.3389/fmars.2025.1463734
- Varghese, D., Piermattei, V., Madonia, A., & Marcelli, M. (2024). Tiber River-Driven Chlorophyll-a and Total Suspended Matter Dynamics and Their Impacts along the Central Tyrrhenian Sea Coast: A Sentinel-2 Approach. *International Journal of Applied Earth Observation and Geoinformation*, 134, 104161.
- Maglietta, R., Caccioppoli, R., Piazzolla, D., Saccotelli, L., Cherubini, C., Scagnoli, E., ... & Coppini, G. (2024). Habitat suitability modeling of loggerhead sea turtles in the Central-Eastern Mediterranean Sea: a machine learning approach using satellite tracking data. *Frontiers in Marine Science*, 11, 1493598.
- Piazzolla, D., Scanu, S., Mancuso, F. P., Bosch-Belmar, M., Bonamano, S., Madonia, A., ... & Piermattei, V. (2024). An integrated approach for the benthic habitat mapping based on innovative surveying technologies and ecosystem functioning measurements. *Scientific Reports*, 14(1), 5888.
- Bonamano, S., Federico, I., Causio, S., Piermattei, V., Piazzolla, D., Scanu, S., ... & Marcelli, M. (2024). River–coastal–ocean continuum modeling along the Lazio coast (Tyrrhenian Sea, Italy): Assessment of near river dynamics in the Tiber delta. *Estuarine, Coastal and Shelf Science*, 297, 108618.
- Piazzolla, D., Scanu, S., Mancuso, F. P., Bosch-Belmar, M., Bonamano, S., Madonia, A., ... & Piermattei, V. (2024). An integrated approach for the benthic habitat mapping based on innovative surveying technologies and ecosystem functioning measurements. *Scientific Reports*, 14(1), 5888.
- Piazzolla, D., Bonamano, S., De Muto, F., Scanu, S., Bernardini, S., Sodo, A., ... & Marcelli, M. (2023). Microlitter occurrence, distribution, and summertime transport trajectories in the coastal waters of the north-eastern Tyrrhenian Sea (Italy). *Geosystems and Geoenvironment*, 2(4), 100192.
- Scanu, S., Piazzolla, D., Bonamano, S., Penna, M., Piermattei, V., Madonia, A., ... & Marcelli, M. (2022). Economic Evaluation of *Posidonia oceanica* Ecosystem Services along the Italian Coast. *Sustainability*, 14(1), 489.
- MARCELLI, M., PIERMATTEI, V., GERIN, R., BRUNETTI, F., PIETROSEMOLI, E., ADDO, S., ... & CRISE, A. (2021). Toward the widespread application of low-cost technologies in coastal ocean observing (Internet of Things for the Ocean). *Mediterranean Marine Science*, 22(2), 255-269.

- BONAMANO, S., PIAZZOLLA, D., SCANU, S., PIERMATTEI, V., & MARCELLI, M. (2021). Trace-metal distribution and ecological risk assessment in sediments of a sheltered coastal area (Gulf of Gaeta, central-eastern Tyrrhenian Sea, Italy) in relation to hydrodynamic conditions. *Mediterranean Marine Science*, 22(2), 372-384.
- Bonamano, S., Piazzolla, D., Scanu, S., Mancini, E., Madonia, A., Piermattei, V., & Marcelli, M. (2021). Modelling approach for the evaluation of burial and erosion processes on *Posidonia oceanica* meadows. *Estuarine, Coastal and Shelf Science*, 254, 107321.
- Martellucci, R., Salon, S., Cossarini, G., Piermattei, V., & Marcelli, M. (2021). Coastal phytoplankton bloom dynamics in the Tyrrhenian Sea: Advantage of integrating in situ observations, large-scale analysis and forecast systems. *Journal of Marine Systems*, 218, 103528.
- Piazzolla, D., Cafaro, V., de Lucia, G. A., Mancini, E., Scanu, S., Bonamano, S., Piermattei, V., Vianello, E., Della Ventura, G., & Marcelli, M. (2020). Microlitter pollution in coastal sediments of the northern Tyrrhenian Sea, Italy: microplastics and fly-ash occurrence and distribution. *Estuarine, Coastal and Shelf Science*, 106819.
- Caruso, G., Madonia, A., Bonamano, S., Misericocchi, S., Giglio, F., Maimone, G., Azzaro, F., Decembrini, F., La Feria, R., Piermattei, V. & Piazzolla, D., Marcelli, M., Azzaro, M. (2020). Microbial Abundance and Enzyme Activity Patterns: Response to Changing Environmental Characteristics along a Transect in Kongsfjorden (Svalbard Islands). *Journal of Marine Science and Engineering*, 8(10), 824.
- Pasculli, L., Piermattei, V., Madonia, A., Bruzzone, G., Caccia, M., Ferretti, Odetti, A., & Marcelli, M. (2020). New Cost-Effective Technologies Applied to the Study of the Glacier Melting Influence on Physical and Biological Processes in Kongsfjorden Area (Svalbard). *Journal of Marine Science and Engineering*, 8(8), 593.
- Madonia, A., Caruso, G., Piazzolla, D., Bonamano, S., Piermattei, V., Zappalà†, G., & Marcelli, M. (2020). Chromophoric Dissolved Organic Matter as a Tracer of Fecal Contamination for Bathing Water Quality Monitoring in the Northern Tyrrhenian Sea (Latium, Italy). *Journal of Marine Science and Engineering*, 8(6), 430.
- Bonamano, S., Madonia, A., Piermattei, V., Stefanv", C., Lazzara, L., Nardello, I., Decembrini, F. & Marcelli, M. (2020). Phyto-VFP: a new bio-optical model of pelagic primary production based on variable fluorescence measures. *Journal of Marine Systems*, 204, 103304.
- Gnisci, V., de Martiis, S. C., Belmonte, A., Micheli, C., Piermattei, V., Bonamano, S., & Marcelli, M. (2020). Assessment of the ecological structure of *Posidonia oceanica* (L.) Delile on the northern coast of Lazio, Italy (central Tyrrhenian, Mediterranean). *Italian Botanist*.
- Borfecchia F, Consalvi N, Micheli C, Carli FM, Cognetti De Martiis S, Gnisci V, Piermattei V, Belmonte A, De Cecco L, Bonamano S, Marcelli M (2019). Landsat 8 OLI satellite data for mapping of the *Posidonia oceanica* and benthic habitats of coastal ecosystems. *INTERNATIONAL JOURNAL OF REMOTE SENSING*, ISSN: 0143-1161, doi: 10.1080/01431161.2018.1528020.
- ZAPPALA', G., Caruso, G., Piermattei, V., Madonia, A., Bonamano, S., Petri, A., & Marcelli, M. (2019). DEVICES FOR ENVIRONMENTAL OBSERVATIONS. *WIT Transactions on Engineering Sciences*, 125, 61-71.
- Piermattei V., Madonia A., Bonamano S., Martellucci R., Bruzzone G., Ferretti R., Odetti A., Azzaro M., Zappalà† G., Marcelli M. (2018) Cost-Effective Technologies to Study the Arctic Ocean Environment, *Sensors*, 2018, 18(7), 2257, DOI: <https://doi.org/10.3390/s18072257>.

- Martellucci, R., Pierattini, A., De Mendoza, F. P., Melchiorri, C., Piermattei, V., & Marcelli, M. (2018). Physical and Biological Water Column Observations during Summer Sea/Land Breeze Winds in the Coastal Northern Tyrrhenian Sea. *Water*, 10(11), 1673.
- Cafaro, V., Piazzolla, D., Melchiorri, C., Burgio, C., Fersini, G., Conversano, F., Piermattei V. & Marcelli, M. (2018). Underwater noise assessment outside harbor areas: The case of Port of Civitavecchia, northern Tyrrhenian Sea, Italy. *Marine Pollution Bulletin*, 133, 865-871.
- Lacava, T., Cincia, E., Di Polito, C., Madonna, A., Pascucci, S., Pergola, N., ... & Tramutoli, V. (2018). Evaluation of MODIS-Aqua Chlorophyll-a Algorithms in the Basilicata Ionian Coastal Waters. *Remote Sensing*, 10(7), 987.
- Paladini de Mendoza, F., Bonamano, S., Martellucci, R., Melchiorri, C., Consalvi, N., Piermattei, V., & Marcelli, M. (2018). Circulation during Storms and Dynamics of Suspended Matter in a Sheltered Coastal Area. *Remote Sensing*, 10(4), 602.
- Bonamano S, Piazzolla D, Madonna A, Paladini de Mendoza F, Piermattei V, Scanu S, Marcelli M, Zappalà G (2018). Water renewal time and trace metal concentration in Civitavecchia port (Rome), Italy. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL IMPACTS*, ISSN: 2398-2640
- Bonamano, S., Madonna, A., Piazzolla, D., Paladini de Mendoza, F., Piermattei, V., Scanu, S., & Marcelli, M. (2017). Development of a Predictive Tool to Support Environmentally Sustainable Management in Port Basins. *Water*, 9(11), 898.
- Micheli, C., Belmonte, A., Pignatelli, V., De Cecco, L., Piermattei, V., Marcelli, M., & Borfecchia, F. Evaluation of cyanobacteria bioenergy: a potential resource in Antarctica detected by Multi/Hyper-spectral satellite Image, *International Journal of Renewable Energy Technology Research* Vol. 5, No. 3, June 2016, pp. 1-11, ISSN: 2325 - 3924 (Online at <http://ijretr.org>).
- Fiori E., Servadei I., Piermattei V., Bonamano S., Madonna A., Guerrini F., Marcelli M., Pistocchi R. (2016). A new approach to assess the effects of oil spills on phytoplankton community during the "Serious Game" experiment (MEDESS-4MS Project). *DEEP SEA RESEARCH PART II: TOPICAL STUDIES IN OCEANOGRAPHY*. doi:10.1016/j.dsr2.2016.05.026
- Marcelli M, Piermattei V, Madonna A, Lacava T, Mainardi U (2016). T-FLaP advances: instrumental and operative implementation. *JOURNAL OF OPERATIONAL OCEANOGRAPHY*, 9(sup1), pp:185-192. DOI: 10.1080/1755876X.2015.1117765
- Zappalà G, Caruso G, Bonamano S, Madonna A, Piermattei V, Martellucci R, Di Cicco A, Pannocchi A, Stefanì C, Borsellino C, Marcelli M (2016). A multi-platform approach to marine environment assessment in Civitavecchia (Rome) area. *JOURNAL OF OPERATIONAL OCEANOGRAPHY*, 9(sup1), pp: 131-143. DOI: 10.1080/1755876X.2015.1119561
- Bonamano S., Piermattei V., Madonna A., Paladini de Mendoza F., Pierattini A., Martellucci R., Stefanì C., Zappalà G., and M. Marcelli. (2016). The Civitavecchia Coastal Environment Monitoring System (C-CEMS): a new tool to analyse the conflicts between coastal pressures and sensitivity areas. *OCEAN SCIENCE*, PP. 87-100, ISSN: 1812-0784.
- Bonamano S, Madonna A, Borsellino C, Stefanì C, Caruso G, De Pasquale F, Piermattei V, Zappalà G, Marcelli M (2015). Modeling the dispersion of viable and total *Escherichia coli* cells in the artificial semi-enclosed bathing area of Santa Marinella (Latium, Italy). *MARINE POLLUTION BULLETIN*, 2015 Jun 15;95(1):141-154. ISSN: 0025-326X, doi: 10.1016/j.marpolbul.2015.04.030.

- Scanu S, Carli FM, Peviani MA, Piermattei V, Bonamano S, Paladini de Mendoza F, Dampney K, Norris J, Marcelli M (2015). Environmental Monitoring Techniques and Equipment related to the installation and operation of Marine Energy Conversion Systems. In "OCEAN ENERGY: ONGOING RESEARCH IN ITALY"- ENERGIA AMBIENTE E INNOVAZIONE; ENEA DOI: 10.12910/EAI2015-041; pp: 04-15.
- Bonamano S, Paladini de Mendoza F, Piermattei V, Martellucci R, Madonia A, Gnisci V, Mancini E, Fersini G, Burgio C, Marcelli M, Zappalà† G (2015). Mathematical models supporting the monitoring of Civitavecchia harbour near Rome, COMPUTATIONAL METHODS AND EXPERIMENTAL MEASUREMENTS XVII, 59, pp: 443-453.

PROCEEDINGS, REPORT

- European Climate Risk Assessment, EEA Report 01/2024, European Environment Agency, Chapter 4: Marine and coastal ecosystem.
- Pérez Gómez, B., Pérez Rubio, S., Hibbert, A., Garcia León, M., Matulka, A., Piermattei, V., ... & Coppini, G. (2023). Final report describing the demonstration and the user feedback at European sites https://doi.org/10.3289/eurosea_d5.10.
- V. Piermattei, A. Madonia, S. Bonamano, R. Martellucci, G. Bruzzzone, R. Ferretti, A. Odetti, M. Azzaro, G. Zappalà and M. Marcelli (2017). Application of a low cost instrumentation in Arctic extreme conditions. In 4th International Electronic Conference on Sensors and Applications. Multidisciplinary Digital Publishing Institute.
- S. Scanu, F.M. Carli, M.A. Peviani, V. Piermattei, S. Bonamano, F. Paladini de Mendoza, K. Dampney, J. Norris, M. Marcelli Environmental monitoring techniques and equipment related to the installation and operation of Marine Energy Conversion Systems, EAI Speciale II-2015 Ocean energy: Ongoing research in Italy, DOI: 10.12910/EAI2015-041
- Lacava T, Bernini G, Ciana E, Coviello I, Di Polito C, Liuzzi G, Madonia A, Marcelli M, Masiello G, Pascucci S, Paciello R, Palombo A, Pergola N, Piermattei V, Pignatti S, Venafra S, Santini F, Satriano V, Serio C, Sileo G, Tournaviti P, Tramutoli V, Vallianatos F (2014). Integration of satellite data and in-situ measurements for coastal water quality monitoring: preliminary results of the first IOSMOS (ionian sea water quality monitoring by satellite data) campaigns. In: The EUMETSAT Conference. Geneva, Switzerland, 22-26, September, doi: DOI:10.13140/2.1.4039.2487.
- Pignatti S, Pergola N, Bernini G, Palombo A, Pascucci S, Santini F, Lacava T, Ciana E, Tramutoli V, Liardo S, Mancini M, Pacci G, D'Andrea S, Iacullo S, Madonia A, Piermattei V, Marcelli M (2014). CASI-1500 hyperspectral remote sensing data and in situ measurements within the IOSMOS project activities for coastal water bio-optical properties assessment. Proceedings IBIMET Quinto Simposio Internazionale "Il monitoraggio costiero mediterraneo: problematiche e tecniche di misura" Livorno 17-18-19 giugno 2014.

OTHER SKILLS

- National Scientific Habilitation 04/A4 GEO/12

- 2024-2025/2023-2024 Contract Professor 'Marine Monitoring' International Master Degree in Marine Biology and Ecology (LM-6), University of Tuscia (DEB)
- 2021-2022/2022-2023 Contract Professor 'Marine Biological Monitoring' Master Degree in Marine Biology and Ecology (LM-6), University of Tuscia (DEB)
- Advanced Scuba Diver – NADD Europe

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Civitavecchia, 01-05-2025

Viviana Piermattei