

CURRICULUM VITAE

GIORGIO CASTELLAN

PERSONAL INFORMATION

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PEC	[REDACTED]
Nationality	[REDACTED]
Date of birth	[REDACTED]
Qualification	PhD IN NATURAL E CULTURAL HERITAGE – ECOLOGY (BIO/07)
Current position	RESEARCHER
ORCID	https://orcid.org/0000-0001-6084-1504
H-index	GOOGLE SCHOLAR: 10 https://scholar.google.it/citations?user=FVKbXU0AAAAJ&hl=it&oi=ao SCOPUS: 9 https://www.scopus.com/authid/detail.uri?authorid=57197792310

RESEARCH ACTIVITY

Habitat mapping and composition, conservation and restoration of benthic ecosystems

My research is primarily focused on studying the distribution and composition of intermediate and deep-sea benthic megafauna with a particular interest in those listed under national and international directives, such as biogenic structures (coral bioconstructions, coralligenous, oyster reefs), animal forests (corals, sponges, and bryozoans) and soft bottoms habitats. I worked on a large number of visual surveys, mainly remotely operated vehicles (ROV) videos, collected in different areas within the Mediterranean Sea, but also in the Gulf of Mexico, Australia, Antarctica, and the Arctic. I explore how environmental variables facilitate or limit the presence of megabenthic taxa and influence the structure of biological communities in both taxonomical and functional terms, providing quantitative characterizations of benthic assemblages and identifying differences in their structure related to environmental gradients, geographical location and global changes. These activities are strongly focused on mapping marine benthic habitats, working with different mapping techniques and software to process visual surveys, also developing my own scripts (in R software and Python) to characterize and spatially identify benthic habitats and communities. I participated in several oceanographic cruises where I cooperated in the acquisition of visual surveys, and oceanographic and bathymetric data. Among the primary scopes of my research is providing spatial information on ecologically relevant habitats to spatially identify areas potentially worthy or in need of conservation actions and orient maritime spatial plans. Comparing field information and literature evidence with national and international directives, my activity also aims at providing an assessment of the protection status of intermediate and deep benthic taxa and communities.

Modeling and data management

Strong familiarity with digital platforms and tools for marine data management. Experienced in the design, implementation, and population of geodatabases and geoportals, with a focus on integrating multidisciplinary marine environmental datasets to support habitat mapping, biodiversity assessments, spatial planning and conservation strategies. I have expertise in Geographic Information Systems (GIS), spatial data management, and the development of digital platforms for the visualization, storage, and systematization of biodiversity-related geospatial data. I routinely use advanced GIS software and programming languages (R, Python) to automate spatial analyses, standardize heterogeneous datasets, and develop interoperable workflows. These solutions are tailored to enhance data accessibility, reproducibility, and usability in conservation planning, habitat suitability modeling, and marine spatial planning at national and international scales. Additionally, I have significant experience in processing satellite-derived oceanographic data (e.g., MODIS-Aqua) and extracting species occurrences from global repositories and scientific literature to support predictive modeling efforts, such as Habitat Suitability Models (HSM) and Species Distribution Models.

WORK EXPERIENCE

16/11/2023 – Today

At

Activity

Researcher (Prot. 0319425/2023, 339335/2024)

Institute of Marine Sciences – National Research Council (CNR-ISMAR), via Gobetti 101, 40129 Bologna, Italy.

Mapping and investigation of marine biodiversity and benthic habitat functioning in the Mediterranean Sea. Design, compilation, and update of geodatabases and the National (Marine) Biodiversity Observatory System, within the framework of the National Recovery and Resilience Plan (NRRP), “National Biodiversity Future Center – NBFC”. Development of restoration actions targeting cold-water coral reefs.

02/11/2022 – 15/11/2023

At

Activity

Postdoctoral research grant (Prot. 0005764/2022)

Institute of Marine Sciences – National Research Council (CNR-ISMAR), via Gobetti 101, 40129 Bologna, Italy.

Geobiological analysis and ROV video processing to evaluate the response to climate change of cold-water coral habitats in the Mediterranean Sea within the project MIUR-PRIN 2017 GLIDE 2017FREXZY.

02/11/2021 - 01/11/2021

At

Activity

Research grant (Prot. 0006007/2021)

Institute of Marine Sciences – National Research Council (CNR-ISMAR), via Gobetti 101, 40129 Bologna, Italy.

Geobiological analysis and ROV video processing to evaluate the response to climate change of cold-water coral habitats in the Mediterranean Sea within the project MIUR-PRIN 2017 GLIDE 2017FREXZY.

05/12/2020 - 31/03/2021

At

Activity

Occasional collaboration

ELETTRA tlc spa – Via Cristoforo Colombo, 163, 00147, Roma, Italy.

Compilation of technical reports aimed at describing the seafloor geomorphology, benthic habitats, and anthropogenic activities in the Mediterranean Sea for a desktop study for the installation of underwater pipelines/pipes.

28/05/2019 - 30/07/2019

At

Activity

Occasional collaboration

H2Offshore srl. – Via Burgio, 6, 95024, Acireale, Catania, Italy.

Collection, mapping, and analysis of data about seafloor geomorphology, benthic habitats, and anthropogenic activities in the Mediterranean Sea for a desktop study for the installation of underwater pipelines/pipes.

05/03/2018 - 31/10/2018

At

Activity

Scholarship research grant (Prot. 0001535/2018)

Institute of Marine Sciences – National Research Council (CNR-ISMAR), via Gobetti 101, 40129 Bologna, Italy.

The research activity focused on exploring the environmental factors influencing the distribution of the yellow coral *Dendrophyllia cornigera* in the Mediterranean Sea and explore the potential variation in its distribution under foreseen climatic changes.

19/06/2017 - 19/12/2017

At

Activity

Postgraduate internship (Prot. 0000498/2017)

Institute of Marine Sciences – National Research Council (CNR-ISMAR), via Gobetti 101, 40129 Bologna, Italy.

Analysis of ROV videos collected in the framework of the Marine Strategy Framework Directive (MSDF) to map the distribution of cold-water coral ecosystems in the deep Mediterranean Sea.

Supervisor: Federica Fogliani

01/11/2016 - 15/05/17

At

Activity

Postgraduate internship

Marche Polytechnic University, Via Breccie Bianche, Ancona, Italy.

Collection and analysis of video footages of the infralittoral biocoenoses off Portonovo (Italy). Taxonomic identification and estimation of the potential reduction habitat extent of benthic habitats due to activities of beach nourishment.

Supervisor: Prof. Roberto Danovaro

01/03/2016 - 13/05/2016

At

Activity

ERASMUS+ research grant

National University of Ireland Galway (NUIG), University Rd, Galway, Ireland.

Study of the influence of freshwater underground coastal spills on the structure of the phytoplankton community and coastal biogeochemical dynamics. Field collection of coastal water samples using Niskin bottles and taxonomic identification of planktonic microalgae using electron microscope.

Supervisor: Prof. Rachel Cave

EDUCATION AND TRAINING

1/11/2018 – 31/03/2022

At

Ph.D. in Cultural and Natural Heritage

University of Bologna, Via Zamboni, 33, 40126 Bologna, Italy

Thesis title

The mesophotic zone of the Mediterranean Sea: spatial definition, biodiversity, and predictive models.

5/5 Excellent

Aims

Spatial definition of the mesophotic zone of the Mediterranean Sea and the Gulf of Mexico using light penetration along the water column estimated with a modeling approach. Study of the biodiversity associated with Mediterranean mesophotic ecosystems by analyzing a set of Remotely Operated Vehicles (ROV) video footages for the identification of taxonomical and functional composition. Analysis of the role of environmental variables in influencing the composition of mesophotic assemblages through statistical analyses. Assessment of the conservation status of the mesophotic assemblages in the Mediterranean Sea.

Tutors

Prof. Marco Abbiati, Dr. Federica Foglini, Dr. Marco Taviani, Dr. Lorenzo Angeletti

08/10/2014 - 26/10/2016

At

Master's degree in marine biology

Marche Polytechnic University, Via Breccie Bianche, Ancona, Italy

Thesis title

Impact of deep-sea mining on trophic state and degradation rates of organic matter in benthic ecosystems of the abyssal Pacific Ocean

110/110 *cum laude*

Aims

Evaluating the impact of deep-sea mining activities on the trophic state and the microbial community in sediments from the Clarion-Clipperton Fracture Zone (Pacific Ocean). Analysis of the composition of the sedimentary labile organic matter (proteins, carbohydrates, lipids and phyto-pigments) through fluorimetric and spectrophotometric techniques. Quantification of prokaryotic abundance using epifluorescence microscopy and molecular analysis.

Tutors

Prof. Antonio Dell'Anno and Prof. Cinzia Corinaldesi

20/07/2010 - 22/03/2014

At

Bachelor's degree in biology

University of Milano Bicocca, Piazza dell'Ateneo Nuovo, 1 - 20126, Milano, Italy

Thesis title

Presenza di inquinanti organici persistenti nei salmoni reali, chinook salmon (*Oncorhynchus tshawytscha*): implicazioni per le orche che popolano le acque della Columbia Britannica.

Tutors

Prof. Paolo Galli

INVOLVEMENT IN NATIONAL AND INTERNATIONAL PROJECT

2024 – to date	Multidisciplinary study of enigmatic mounds in the East Antarctica offshore – MYSTERO <i>National Antarctic Research Program of Italy (PNRA). Budget: € 187,110.00</i>
Activity	Pl. Geological, biological, oceanographic and microbiological investigation of mound formations in the Ross Sea (Antarctica)
2023 – to date	Restoration of deep-sea habitats to rebuild European Seas - REDRESS Horizon Europe – IA – CL6-2023-BIODIV-01. Budget: € 8,656,994.00
Activity	Design of restoration actions targeting Cold-water coral reefs in the Mediterranean Sea and Atlantic Ocean. Collection and harmonization of data on deep-sea habitats, development of geoportal supporting the selection of restoration sites. Integration of data layers to inform adaptive restoration strategies across basins.
2022 - to date	PNRR - NBFC National Biodiversity future centre SPOKE 1 Mapping and monitoring actions to preserve marine ecosystem biodiversity and functioning Italian Ministry of University and Research.
Activity	Collection, integration, and systematization of existing marine biodiversity data in Italian waters. Design, compilation, and updating of geodatabases and the geoportal "National (Marine) Biodiversity Observatory System". Implementation of experimental studies at pilot sites and acquisition of biological samples to assess and monitor biodiversity. Application of advanced methodologies to track biodiversity changes over time. Development of personalized script for the automatic ingestion of metadata in ISMAR Geonetwork metadata catalogue.
2022 – to date	Deep reef restoration and litter removal in the Mediterranean Sea (LIFE DREAM) 101074547 (Prot. 82753/2023). <i>Programme for Environment and Climate Action (LIFE). Budget: € 5,308,472.89</i>
Activity	Task leader; Systematization of existing data on cold-water corals in the project areas. Compilation and updating of geodatabase and geoportal of the project. Development of restoration actions targeting cold-water coral reefs in the Mediterranean Sea, implementation of a circular economy experiment to convert plastic marine litter into blue fuel.
01/2022 - 02/2022	DTS Caraibi - Desktop study for the installation of underwater pipelines in the Caribbean (Prot. 82753/2023)
Activity	Technical reports on seafloor geomorphology, benthic habitats, and anthropogenic activities in the Caribbean Sea for the installation of underwater pipelines/pipes. Design and population of geodatabases and webapps to support technical reporting and decision-making for submarine infrastructure planning. Production of thematic maps.

2021 – 2024	MIUR-PRIN 2017 GLIDE (2017FREXZY) (Prot. 82749/2023)
Activity	<i>MIUR-PRIN 2017. Budget: € 720.466</i> Analysis of visual surveys on cold-water corals in the Mediterranean Sea to evaluate impact of climate changes in deep Mediterranean Sea.
2020 – 2021	INTERREG Italy-Croatia Soundscapes in the North Adriatic Sea and their impact on Marine Biological Resources (SOUNDSCAPE) (Prot. 82753/2023)
Activity	<i>INTERREG Italy-Croatia. Budget: € 2.146.040,50</i> Habitat Suitability Modeling of presence areas of bottlenose dolphin <i>Tursiops truncatus</i> and loggerhead turtle <i>Caretta caretta</i> in the Cres-Lošinj archipelago.
2020 - 2021	Horizon 2020 REsearch Lifecycle mAnagement for Earth Science Communities and CopErnicus users in EOSC (RELIANCE) (Prot. 82753/2023)
Activity	<i>Horizon 2020 EXCELLENT SCIENCE - Research Infrastructures. Budget: € 1.999.972,50</i> Project member. Research activity aimed at curating, preserving, sharing, and re-using scientific processes from data collection to data processing and publication.
2017 – 2019	MATTM-CNR: Marine Strategy Framework Directive Monitoring Program (Prot. 0000498/2017)
Activity	Project member. Processing of multibeam data and analysis of ROV video to map the cold-water corals habitat
2017 - 2019	DG Environment programme IDEM (Implementation of the MSFD to the DEep Mediterranean Sea)
Activity	Project member Systematic collection, harmonization, and georeferencing of biodiversity and human pressure datasets. Design and population of geodatabases for spatial analysis and integration into GIS platforms and geoportals. Implementation of multiple-criteria decision analysis (MCDA) for the identification of areas of priority for conservation in the deep Mediterranean Sea
2017 - 2019	Horizon 2020 European Virtual Environment for Research – Earth Science Themes: a solution (EVER-EST) (Prot. 0000498/2017)
Activity	Project member. Implementation statistical models to predict the distribution of Cold-Water Corals by using R software.

PUBLICATIONS

- **Castellan G.***, Marchese F., Lüdmann T., Taviani M., Westphal H. (in press). Deep-sea marine litter from visual surveys: New findings from offshore Al Wajh, Red Sea (Saudi Arabia). *Regional Studies in Marine Science*.
- Di Giovanna F., **Castellan G.***, Vitelletti M. L., Taviani M., Foglini F., McCulloch M. T., ... & Trotter J. A. (2025). Predicting Suitable Areas for Cold-Water Scleractinian Corals in Southwestern Australian Submarine Canyons. *Journal of Biogeography*.
- **Castellan G.***, Angeletti L., & Taviani M. (2024). Diversity and future perspectives of Mediterranean deep-water oyster reefs. *Scientific Reports*, 14(1), 30651.
- **Castellan G.***, Montagna P., & Taviani M. (2025). A changing marine lightscape: Two decades of satellite data to map the global benthic mesophotic zone and explore trends of change. *Science of the Total Environment*, 959, 178163.
- Foglini F., Rovere M., Tonielli R., **Castellan G.***, Prampolini M., Budillon F., ... & Trincardi F. (2025). A new multi-grid bathymetric dataset of the Gulf of Naples (Italy) from complementary multi-beam echo sounders. *Earth System Science Data*, 17(1), 181-203.
- Taviani M., Montagna P., Hosie, A. M., **Castellan G.**, Kemper C., Foglini F., ... & Trotter, J. (2024). Whale fall chemosymbiotic communities in a southwest Australian submarine canyon fill a distributional gap. *Heliyon*, 10(8).
- **Castellan G.***, Abbiati M., Angeletti L., Foglini F., Grande V., Montagna P., Taviani M. What are we

protecting? An analysis of the current conservation framework addressing Mediterranean mesophotic habitats. *Frontiers in Environmental Science*, 10, 2022.

- Taviani M., Foglini F., **Castellan G.***, Montagna P., McCulloch M., Trotter J. First assessment of anthropogenic impacts in submarine canyon systems off southwestern Australia. *Science of The Total Environment*, 857, 159243, 2022.
- Trotter J., Taviani M., Foglini F., Sadekov A., Skrzypek G., Mazzoli C., Remia A., Santodomingo N., **Castellan G.**, McCulloch M., Pattiaratchi M., Montagna P. Unveiling deep-sea habitats of the Southern Ocean-facing submarine canyons of southwestern Australia. *Progress in Oceanography*, 209, 102904, 2022.
- **Castellan G.***, Angeletti L., Montagna P., Taviani M. Drawing the borders of the mesophotic zone of the Mediterranean Sea using satellite data. *Scientific Reports* 12 (5585), 2022.
- **Castellan G.**, Angeletti L., Canese S., Mazzoli C., Montagna P., Schiaparelli S., Taviani M. Visual Imaging of Benthic Carbonate-Mixed Factories in the Ross Sea Region Marine Protected Area, Antarctica. *Minerals*, 11(8), 833, 2021. <https://doi.org/10.3390/min11080833>
- Prampolini M., Angeletti L., **Castellan G.***, Grande V., Le Bas T., Taviani M., Foglini F. Substrate and benthic habitat map of the southern Adriatic Sea (Mediterranean Sea) from object-based image analysis of multi-source acoustic backscatter data. *Remote Sensing* 13(15), 2913, 2021. <https://doi.org/10.3390/rs13152913>
- Fanelli E., Bianchelli S., Foglini F., Canals M., **Castellan G.**, Güell-Bujons Q., Galil B., Goren M., Evans J., Fabri M-C., Vaz S., Ciuffardi T., Schembri P.J., Angeletti L., Taviani M., Danovaro R. Identifying priorities for the protection of deep Mediterranean Sea ecosystems through an integrated approach. *Frontiers in Marine Sciences* 8:698890, 2021. <https://doi.org/10.3389/fmars.2021.698890>
- **Castellan G.***, Angeletti L., Correggiari A., Foglini F., Grande V. Visual Methods for Monitoring Mesophotic-to-Deep Reefs and Animal Forests: Finding a Compromise Between Analytical Effort and Result Quality, in *Perspectives on the Marine Animal Forests of the World*, S. Rossi, L. Bramanti (eds.), Springer Nature Switzerland, 2020. https://doi.org/10.1007/978-3-030-57054-5_15
- Angeletti L., **Castellan G.**, Montagna P., Remia A., Taviani M. The “Corsica Channel Cold-Water Coral Province” (Mediterranean Sea). *Frontiers in Marine Science*, 7, 661, 2020. <https://doi.org/10.3389/fmars.2020.00661>
- Taviani M., Angeletti L., Canese S., Cardone F., **Castellan G.***, Foglini F. A brachiopod biotope associated with rocky bottoms at the shelf-break in the central Mediterranean Sea: geo-biological traits and conservation aspects. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 30(2), 402-411, 2020. <https://doi.org/10.1002/aqc.3255>
- Danovaro R., Fanelli E., Canals M., ... and the **IDEM Consortium**. Towards a Marine Strategy for the Deep Mediterranean Sea: Analysis of current ecological status. *Marine Policy*, 112, 103781, 2019. <https://doi.org/10.1016/j.marpol.2019.103781>
- **Castellan G.***, Angeletti L., Taviani M., Montagna P. The Yellow Coral *Dendrophyllia cornigera* in a Warming Ocean. *Frontiers in Marine Science* 6:692, 2019. <https://doi.org/10.3389/fmars.2019.00692>
- Foglini, F., Grande, V., Marchese, F., Bracchi, V. A., Prampolini, M., Angeletti, L., **Castellan G.** ... & Meroni, A. N. Application of Hyperspectral Imaging to Underwater Habitat Mapping, Southern Adriatic Sea. *Sensors*, 19(10), 2261, 2019. <https://doi.org/10.3390/s19102261>
- Rosato V., Temple N.J., La Vecchia C., **Castellan G.**, Tavani A., Guercio V. Mediterranean diet and cardiovascular disease: a systematic review and meta-analysis of observational studies. *European Journal of Nutrition*, 2017. <https://doi.org/10.1007/s00394-017-1582-0>

OCEANOGRAPHIC CRUISES AND FIELD EXPEDITIONS

18/09/2024 – 30/09/2024	Oceanographic cruise FARO24 , Strait of Sicily (Ionian Sea), R/V Gaia Blu Activities: Chief Scientist, ROV dives and eDNA
11/07/2024 – 22/07/2024	Oceanographic cruise ECORESTII , Gulf of Naples (Tyrrhenian Sea), R/V Gaia Blu Activities: ROV dives, deployment of artificial structure for restoration, sampling of coral specimens and eDNA
05/05/2024 – 13/05/2024	Oceanographic cruise ECOREST Leg II , Gulf of Naples (Tyrrhenian Sea), R/V Gaia Blu Activities: ROV dives, deployment of artificial structure for restoration, sampling of coral specimens and eDNA
06/09/2023 – 06/10/2023	Oceanographic cruise M193 , Offshore Saudi Arabia (Red Sea), R/V Meteor. Activities: ROV video acquisition, sampling of coral specimens, sediment sampling
27/09/2022 – 18/10/2022	Oceanographic cruise JammeGaia , Gulf of Naples (Tyrrhenian Sea), R/V Gaia Blu. Activities: Geophysical acquisition
15/06/2022 - 17/06/2022	Field activity in the Venice Lagoon on board of the R/V Litus within the project EU H2020 MAELSTROM. Activities: Geophysical acquisition and ROV dives.
03/05/2022 - 10/05/2022	Oceanographic cruise ITEM , Bari Canyon (Adriatic Sea), M/V Fox Activities: Geophysical acquisition, ROV dives and sample collection.
30/06/2017 - 11/07/2017	Oceanographic cruise MSFD-IT-1-17 , Tyrrhenian Sea, R/V Minerva Uno Activities: Navigation, Geophysical acquisition and ROV dives
01/06/2016 - 10/06/2016	Oceanographic cruise AMONCITY 2016 , Tyrrhenian Sea, R/V Minerva Uno Activities: Navigation, Geophysical acquisition, ROV dives, sediment sampling (box corer, multi corer)

GRANTS AND AWARDS

21/03/2023 – 06/04/2023	Visiting researcher
At	King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia.
Activity	Study current coral reefs and Pleistocene carbonates in Saudi Arabia. Reference: Prof. Hildegard Westphal
01/06/2021 – 31/08/2021	Marco Polo research fellowship
At	Cordes Laboratory, Department of Biology, Temple University, Philadelphia, PA, USA.
Activity	Estimating the mesophotic zone in the Gulf of Mexico using modeling approach. Study of biodiversity of mesophotic habitats by analyzing ROV videos. Reference: Prof. Erik Cordes
26/02/2021	Award: “Scientific production of young researchers” 4th congress of the Italian marine geologists. 25-26 February 2021
12/09/2018	Award for best oral presentation Title: “The frame-building scleractinian <i>Dendrophyllia cornigera</i> in a changing ocean” XXVIII National Congress of the Italian Society of Ecology SItE 2018, 12 – 14 September 2018, Cagliari, Italy.

COMMISSION OF TRUST

2024

Review Editor in Frontiers in Marine Science

CONGRESSES AND WORKSHOPS

19/05/2025 – 22/05/2025	Forum Nazionale della Biodiversità, Milano, Italy
12/07/2025 – 16/05/2025	Conference GeoHab 2025 – Marine geological and biological mapping, Key West, FL, USA
02/07/2024 – 05/07/2024	European Coral Reef Symposium – ECRS 2024, Naples, Italy
20/05/2024 – 22/05/2024	Forum Nazionale della Biodiversità, Palermo, Italy
08/05/2023 – 12/05/2023	Conference GeoHab 2023 – Marine geological and biological mapping, Saint-Gilles-Les-Bains, La Réunion island (Indian Ocean)
04/11/2022 – 06/11/2022	The First International Conference on The Red Sea Ecosphere: Aspects of Conservation and Management of Red Sea Marine Environment, Aqaba, Jordan
23/05/2022 – 27/05/2022	Living Planet Symposium, Bonn, Germany
16/05/2022 – 20/05/2022	Conference GeoHab 2022 – Marine geological and biological mapping, Venice, Italy Chair and Member of organizing committee
14/03/2022	EXPO-Dubai 2020 “Land - City - Sea – Scape Intelligence”
25/02/2021 – 26/02/2021	4 th congress of the Italian marine geologists, performed remotely
05/05/2021	GeoHab 2021 – Marine geological and biological mapping, performed remotely
19/09/2018 - 21/09/2018	RemTech Expo 2018, Ferrara, Italy
12/09/2018 - 14/09/2018	XXVIII Congress of the Italian Society of Ecology 2018, Cagliari, Italy
5/09/2018 - 8/09/2018	Workshop IDEM “First assessment of the deep Mediterranean environmental status”, Valletta, Malta

SEMINARS AND ORAL PRESENTATIONS

- **Castellan G.** UN Ocean Decade 2025, UNESCO-IOC Beyond Borders Pavillion. The role of corals in unlocking the secrets of ocean biodiversity. 13 June 2025, Nice, France
- **Castellan G.** UN Ocean Decade 2024, satellite event Restoring European seas: sustainable fisheries management and deep-sea ecosystems. 9 April 2024, Barcelona, Spain
- **Castellan G.**, Montagna P., Prampolini M., Grande V., Simone G., Di Giovanna F., Mercorella A., Taviani M., Foglini F. Finding a new place to call home: mapping deep-sea habitats to support cold-water coral restoration in two Mediterranean canyons. GeoHab 2025, Key West, FL, USA.
- Simone G., **Castellan G.**, Prampolini M., Taviani M., Montagna P., Di Giovanna F., Grande V., Foglini F. Marine litter in two Mediterranean submarine canyons: mapping distribution and impacts to support restoration efforts. GeoHab 2025, Key West, FL, USA
- Lahami T., Petrizzo A., Scarpa G.M., Manfé G., Marini S., Simone G., **Castellan G.**, Grande V., Sigovini M., Guarneri I., Picciulin M., Montereale Gavazzi G., Frascchetti S., Foglini F., Madricardo F. A multi-sensor approach to monitor very shallow tidal environments: a case study from the Venice Lagoon, Italy. GeoHab 2025, Key West, FL, USA

- Foglini, **Castellan G.**, Trotter, Montagna, McCulloch, Taviani. Mapping macro-litter in deep-sea canyons: the southwestern Australia case. GeoHab 2023, Saint-Gilles-Les-Bains, La Réunion island (Indian Ocean)
- Di Giovanna, Trotter, Montagna, McCulloch, **Castellan G.**, Grande, Taviani, Foglini Habitat Suitability Model predicts potential solitary scleractinian coral occurrence in southwestern Australian submarine canyons. GeoHab 2023, Saint-Gilles-Les-Bains, La Réunion island (Indian Ocean)
- **Castellan G.**, Trotter, Montagna, Foglini, McCulloch, Taviani. ROV-based mapping of bryozoan-sponge-dominated habitat at lower mesophotic depths occurring in a southwestern Australian submarine canyon (Bremer Marine Park). GeoHab 2023, Saint-Gilles-Les-Bains, La Réunion island (Indian Ocean)
- **Castellan G.** Photosynthetic Active Radiation at seabed as a guideline to assess future variation in the photic zone: implications on the distribution of benthic habitats. Talk as invited researcher at King Abdullah University of Science and Technology (KAUST), 3 April 2023, Saudi Arabia.
- **Castellan G.**, Taviani M. Photosynthetic active radiation as a factor controlling light dependent marine ecosystem organisms: the Red Sea case. The First International Conference on The Red Sea Ecosystem: Aspects of Conservation and Management of Red Sea Marine Environment, 4-6 November 2022, Aqaba, Jordan
- **Castellan G.**, Angeletti L., Foglini F., Grande V., Montagna P., Taviani M. "To what extent are mesophotic communities in the Mediterranean Sea protected by the current conservation network?", GeoHab 2022 15-20 May 2022, Venice, Italy.
- **Castellan G.** "A simple method to estimate light intensity at seafloor: applications in the study of Mediterranean benthic mesophotic ecosystems", GeoHab 2021, Europe and Africa Node, 05 May 2022, performed remotely.
- **Castellan G.** "Multi Criteria Analysis: A framework for spatial decision making" in: "Pianificazione spaziale e monitoraggio dell'ambiente marino" course, University of Bologna, 11 March 2021.
- **Castellan G.** "Unraveling the Mesophotic Zone of the Mediterranean Sea" in: CNR-ISMAR seminar series. CNR-ISMAR, 04 March 2021.
- **Castellan G.** Award winner research activities presentation. 4th congress of the Italian marine geologists. 25-26 February 2021, performed remotely.
- Angeletti L., **Castellan G.**, Montagna P., Remia A., Taviani M. "A new Mediterranean Cold-Water Coral Province?" GeoHab 2019, 13-17 May 2019, St. Petersburg, Russia.
- Angeletti L., Canese S., Cardone F., **Castellan G.**, Foglini F., Taviani M. "A brachiopod-dominated biotope at the shelf break of the southeastern Adriatic Sea offshore Albania". XXVIII Congresso della Società Italiana di Ecologia SItE 2018, 12-14 September 2018, Cagliari, Italy.
- Angeletti L., **Castellan G.**, Correggiari A., Foglini F., Grande V., Prampolini M., Remia A., Taviani M. "The need of deep-sea Habitat Mapping for Environmental Protection". RemTech Expo 2018, 19-21 Settembre, Ferrara Fiere, Ferrara, Italy.
- **Castellan G.**, Angeletti L., Montagna P., Taviani M. "The frame-building *Dendrophyllia cornigera* scleractinian coral in a changing Mediterranean Sea". XXVIII Congresso della Società Italiana di Ecologia SItE 2018, 12 – 14 Settembre 2018, Cagliari, Italy.

POSTERS

- Prampolini M., Castellan G., Grande V., Foglini F. The marine geodiversity as a tool for identifying possible biodiversity hotspot and for managing marine resources. GeoHab 2025, Key West, FL, USA
- Grande V., Canese S., Cardone F., **Castellan G.**, Chimienti G., Colletti A., Dalla Valle G., Di Giovanna F., D'Onghia G., Fabbriizzi E., Frascchetti S., Mastrototaro F., Mercorella A., Montagna P., Prampolini M., Remia A., Simone G., Taviani M., Foglini F. Preserve deep-sea habitats by strengthening the Natura 2000 network in deep marine environments. GeoHab 2025, Key West, FL, USA
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- Mapping the mesophotic zone of the Mediterranean Sea: a repeatable and open-access method based on satellite data. **Castellan G.**, Angeletti L., Montagna P., Taviani M., Foglini F. Living Planet Symposium 23-27 May 2022, Bonn, Germany

- Habitat suitability model of the Berner Canyon System (Australia) cold-water-coral grounds. Di Giovanna F., Trotter J. A., Montagna P., McCulloch M., **Castellan G.**, Grande V., Taviani M., Foglini F. GeoHab 2022 15-20 May 2022, Venice, Italy
- The yellow coral *Dendrophyllia cornigera* in a warming ocean. **Castellan G.**, Angeletti L., Taviani M., Montagna P. 7th International Symposium on Deep-Sea Corals 29 July – 02 August 2019, Cartagena, Colombia.
- TRANSHAB: Coast to Deep Habitat Mapping. Angeletti L., **Castellan G.**, Foglini F., Grande V., Kruss A., Madricardo F., Petrizzo A., Prampolini M., Sigovini M., Taviani M., GeoHab 2019, 13-17 May, St. Petersburg, Russia.
- Visual imaging of deep benthic habitats in the Ross Sea Region Marine Protected Area, Antarctica. Angeletti L., Canese S., **Castellan G.**, Montagna P., Mazzoli C., Schiaparelli S., Taviani M. SITE 2018, 12-14 September 2018, Cagliari, Italy.
- Overlooked deep water “reefs”: mapping Mediterranean *Dendrophyllia* habitats. **Castellan G.**, Angeletti A., Foglini F., Taviani M. GeoHab 2018, 7-11 May 2018, Santa Barbara, California, USA.
- An advanced method to make your habitat mapping researches Findable, Accessible, Interoperable, and Re-usable - A Case Study From EVER-EST. Foglini F., **Castellan G.**, De Leo F., Grande V., Madricardo F., Petrizzo A. GeoHab 2018, 7-11 May 2018, Santa Barbara, California, USA.
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- Foglini F., Tonielli R., Rovere M., Budillon F., **Castellan G.**, De Vita G., Di Martino G., Grande V., Innangi S., Loreto F., Madricardo F., Mercorella A., Montagna P., Palmiotto C., Pellegrini C., Petracchini L., Prampolini M., Remia A., Sacchi M., Sanchez Galvez D., Tasseti A.N. (2024) *JAMMEGAIA 2022 Cruise Report*. DOI: 10.26383/CNR-ISMAR.2024.4
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- Andalora F., Battaglia P., Consoli P., Di Franco A., Longo F., Milisenda G., Riginella E., Romeo T., Sanfilippo M., Sinopoli M., Vega Fernandez T., Bolognini L., **Castellan G.**, Di Martino G., Foglini F., Fabi G., Grande V., Innangi S., Polidori P., Prampolini M., Pulcinella J., Tasseti A.N., Vega Ferra C., Tonielli R., Di Cosmo A., Frascchetti S., De Leo F. (2021) *Progetto esecutivo: Misura 1.40.*
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- Oliveri E., Bonsignore M., Canese S., **Castellan G.**, Cardone F., D'Agostino F., Fanelli E., Mazzocchi M.G., Patti C., Placenti F. (2016). *Campagna oceanografica Anomcity_2016*. <http://eprints.bice.rm.cnr.it/15931/>

TEACHING AND TUTORING ACTIVITY

02/07/2025	UNESCO-IOC EU4Ocean Summer School Ocean Literacy & Collaboration CNR-ISMAR, Arsenale Castello, 2737/F, 30122, Venice, Italy
11/2022 – Today	Ph.D. Thesis tutoring activity
University	University of Naples Federico II, C.so Umberto I, 40, 80138 Naples, Italy
Running title	Predictive models and decision analysis for the identification of areas suitable for submarine cables. Candidate: Fabio Di Giovanna
09/2022 – 03/2023	Master Thesis tutoring activity
University	University of Bologna, Via Zamboni, 33, 40126 Bologna, Italy
Title	Typology and distribution of deep-sea epibenthic Echinodermata in the Australian canyons: integrating data from Falkor's expeditions. Candidate: Sara Zavagli
09/2021 – 03/2022	Master Thesis tutoring activity
University	University of Bologna, Via Zamboni, 33, 40126 Bologna, Italy
Title	Cold-Water Corals of the Bremer Canyon systems (Australia): biodiversity and habitat suitability model. Candidate: Fabio di Giovanna
17/01/2018 - 19/01/2018	Geographical Information System (GIS) course
At	Institute of Marine Science – National Research Council (CNR-ISMAR), via Gobetti 101, 40129 Bologna, Italy.
Activity	Tutoring activity in Geographical Information System (GIS) course in the framework of the EU Interreg project AMARe - Actions for Marine Protected Areas.

ADVANCED SHORT COURSES

2025	STCW Basic Safety Training course For Sea Academy, Italy
2024	Geodatabase PostgreSQL/PostGIS and QGIS Faunalia, Italy (remote course)
2024	PyQGIS Faunalia, Italy (remote course)
2024	Python Faunalia, Italy (remote course)
2022	SIS and EM Operator Course Kongsberg Maritime, Kongsberg (remote course)
2022	OPITO Basic Offshore Safety Induction & Emergency Training including HUET and EBS Centro di Formazione Offshore C.F.O. Srl, Italy
2020	Species Distribution Modelling with Bayesian Statistics in R PR Statistics LTD (remote course)
2019	SeaDataCloud Training Workshop SeaDataNet, Oostende, Belgium.
2018	Multibeam data processing: Processing of bathymetrical data from Multibeam sonars. CNR-ISMAR, Bologna, Italy.

2017	Course in Data Science and Data Mining using R software <i>Young Talent in Action- ManpowerGroup Inc., Human Age Institute, Tree Srl.</i>
2017	ECOTONE: Underwater Hyperspectral Imaging for habitat mapping CNR-ISMAR, Bologna, Italy.
2016	Applied marine ecology: Ecological techniques for monitoring marine habitats Avamposto Mare, Tricase, Italy
2013	Tropical marine ecology: on-field techniques to study tropical biological communities Open Ocean Science Centre, Dahab, Egypt
2013	Tropical marine ecology: on-field techniques to study tropical biological communities MarHE Center, University of Milano-Bicocca, Magoodhoo Island, Maldives

TECHNICAL EXPERTISE

IT TOOLS

- Programming skills (R and Python)
 - Statistical and spatial analysis
 - Species distribution model (SDM) and Habitat suitability models (HSM)
 - Decision-making models (MARXAN, Multi-criteria Analysis)
- Geographical Information System GIS (QGIS and ArcGIS)
 - Geodatabases and spatial analysis
- Ocean Data View
 - Oceanographical data analysis
- Kongsberg SIS for multibeam echosounder acquisition
- Adobe Illustrator, Adobe Photoshop, Blender, After Effects
 - Figure design and infographics
- CARIS HISP&SIPS and Qimera
 - Multibeam data processing

ON-FIELD SKILLS

Experience in conducting explorations with Remotely Operated Vehicles for visual surveys and physical sampling of benthic organisms; collection of oceanographic data using CTD and ADCPs; water column sampling using Rosettes for environmental analyses and eDNA extraction from seawater; sampling of organisms for taxonomic and biomolecular analyses (DNA and RNA); execution of deployment and recovery maneuvers for fixed structures on the seafloor. Skilled in geophysical data acquisition, including high-resolution bathymetric mapping using Kongsberg EM 2040, EM 304, and EM 712 multibeam echo sounders, and positioning and attitude control using Kongsberg Seapath systems.

LABORATORY SKILLS

Taxonomic analysis of benthic organisms and DNA extraction for sequencing and biomolecular studies. Experience in molecular techniques for assessing the diversity of prokaryotic communities in marine sediments, in determining prokaryotic abundances using epifluorescence microscopy, and in the chemical analysis of the content and composition of labile sedimentary organic matter (proteins, carbohydrates, lipids, and phytopigments) through fluorometric and spectrophotometric methods.

MOTHER TONGUE(S)

Italian

FOREIGN LANGUAGE(S)

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2++	B2++	C1
Spanish	A1	A1	A1	A1	A1

Levels: A1 e A2: Basic user - B1 e B2: Independent user - C1 e C2: Proficient user
Common European Framework of Reference for Languages

PERSONAL SKILLS

COMMUNICATION SKILLS

Strong communication skills developed through extensive collaboration with national and international research groups across multiple disciplines.
Frequent work-related travel has enhanced my ability to interact effectively with professionals from diverse backgrounds, improving both interpersonal and cross-sectoral communication.
I value teamwork, and I am known for being highly collaborative and supportive of colleagues, contributing actively to a productive and inclusive working environment.

ORGANIZATIONAL SKILLS

Excellent time and project management skills, with a proven ability to work towards objectives under tight deadlines. Experienced in handling multiple research activities simultaneously, maintaining high standards of quality and efficiency.
Skilled in drafting scientific documentation and project proposals, with attention to clarity, structure, and adherence to deadlines.

In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.



() ai sensi dell'art. 15, comma 1 della Legge 12/11/2011, n. 183 le certificazioni rilasciate dalla P.A. in ordine a stati, qualità personali e fatti sono valide e utilizzabili solo nei rapporti tra privati; nei rapporti con gli Organi della Pubblica Amministrazione e i gestori di pubblici servizi, i certificati sono sempre sostituiti dalle dichiarazioni sostitutive di certificazione o dall'atto di notorietà di cui agli artt. 46 e 47 del DPR 445/2000*