

PERSONAL INFORMATION

Alessandra Savini



- Università degli Studi di Milano-Bicocca Department of Earth and Environmental Sciences Piazza della Scienza 4, 20126 Milano (Italia)
- alessandra.savini@unimib.it
- 1 https://scholar.google.com/citations?user=WHu-_wwAAAAJ&hl=en&oi=ao

ORCID ID orcid.org/0000-0002-5818-5947

Date of birth 11/10/1972 | Nationality Italy

Current Position Associate Professor – Geo04 – Physical Geography and Geomorphology

RESEARCH INTERESTS

Summary

Alessandra Savini is a marine geoscientist and leading expert in seafloor imaging and mapping using geophysical data (bathymetry, backscattering and seismic) and RGB still images and videos. She investigates submarine geomorphic processes to decipher the response of submarine landforms, and associated sedimentary environments, to Pleistocene and Holocene climate changes, over longand short-time scales. Focus is given to the development of advanced research methods and innovative techniques (i.e.: Machine Learning, Object-Based Image Analysis and underwater photogrammetry) for the quantitative analysis of acoustic and optical remote sensing data, applied to benthic habitat mapping and assessment of marine anthropogenic impacts and geohazards. She has been involved as research unit responsible in numerous national and EU funded projects, taking part, also as chief scientist, in more than 30 oceanographic expeditions in the Mediterranean Sea and Atlantic, Indian and Arctic Oceans. As a member of the IAG submarine geomorphology working group, her activity has made a significant contribution to the establishment of submarine geomorphology as a scientific discipline, emphasizing its multidisciplinary role and applications in the environmental field as well. She is a member of the Scientific Committee of the MaRHE center (www.marhe.unimib.it), for which she was appointed as the representative for the university of Milano-Bicocca within the Italian node of the European EMBRC (European Marine Biological Research Center).

Bibliometric Indicators

SCOPUS: h-index 21, citations 1144, documents 54 Google Scholar: h-index 24, citations 1681, i10-index 33

WORK EXPERIENCE

From 01/10/2029 to today

Associate Professor

Università degli Studi di Milano-Bicocca – Dept. Of Earth and Environmental Sciences

- Research activity in Submarine Geomorphology;
- Teaching activity (under-graduate and post-graduate levels): Introduction to Oceanography (BS Geological Sciences); Fundamentals in Marine Physical Geography (MS Marine Sciences); Applied Geomorphology and Habitat (MS Marine Sciences); Applied Marine Geology (MS Marine Sciences)

From 01/12/2008 to 30/09/2020

Assistant Professor

Università degli Studi di Milano-Bicocca – Dept. Of Earth and Environmental Sciences

- Research activity in Submarine Geomorphology;
- Teaching activity (under-graduate and post-graduate levels): Fundamentals in Marine Physical Geography (MS Marine Sciences); Applied Geomorphology and Habitat (MS Marine Sciences); Marine Geology (MS Geological Sciences)

From 01/12/2006 to 30/11/2008

Researcher

CoNISMa - National Interuniversity Consortium for Marine Sciences - ULR Milano-Bicocca

 Research activity in seafloor and benthic habitat mapping and development of research methods for geo-acoustic seabed characterization and geo-spatial analysis in deep-sea environments.

From 2004 to 2006

Post-Doc fellowship

Università degli Studi di Milano-Bicocca – Dept. Of Earth and Environmental Sciences

• seafloor and benthic habitat mapping applied to cold-water coral provinces and cold-seep systems



EDUCATION AND TRAINING

2001 II level University Master Degree in Applied Geophysics

Institute of geophysics and marine environment. La Spezia, Italy

PhD in Geological Sciences and Geotechnologies 2004

Università degli Studi di Milano-Bicocca – Dept. Of Earth and Environmental Sciences

 Thesis title: "Development of analytical methods for the interpretation of seafloor mapping data and their management in Geographic Information Systems - GIS".

PERSONAL SKILLS

Mother tongue(s) Other language(s)

Italian

COMPRENSIONE		PARLATO		PRODUZIONE SCRITTA
Ascolto	Lettura	Interazione	Produzione orale	
C2	C1	C1	C2	C2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user Common European Framework of Reference for Languages

INSTITUTIONAL RESPONSIBILITIES

October 2021-today

Appointed by rector's decree as representative for the university of Milano-Bicocca in EMBRC-IT (https://www.embrc.eu/embrc-network/italy).

2020-today 2019-today

English

Lab mamager (RADRL) of GeoVires Lab - University of Milano-Bicocca. (https://geovires.unimib.it/). Responsible for teaching and research activities of the Geology, Geomorphology and Digital Marine Cartography Laboratory of the Department of Earth and Environmental Sciences of the University of Milano-Bicocca (BlueGLab). The Lab is equipped with 6 workstations and a range of commercial and educational software for the combined processing, quantitative analysis and interpretation of marine hydroacoustic and geophysical data. The laboratory has advanced equipment for seabed mapping and monitoring of shallow water environments (e.g. a Reson8125 Multibeam system, the Seamor SteelHead observational ROV, underwater cameras and dedicated LED lamps and sensors).

2018-today

Member of the scientific committee of GEMMA (Geo Environmental Measuring and Monitoring from multiple plAtforms), a new infrastructure of the University of Milano-Bicocca, and responsible of management and acquisition of new tools and facilities for monitoring underwater environments.

2012-today

Appointed by rector's decree as a Member of the scientific committee of the MARHE center (www.marhe.unimib.it), located in Magoodhoo, Faafu atoll, Republic of Maldives, where she coordinates international workshops on mapping technologies in coral reef environments.

NATIONAL AND INTERNATIONAL GRANTS (as principal investigator)

2022-2025

PI of the European project BridgET (Bridging the gap between the land and the sea in a virtual Environment for innovative Teaching and community involvement in the science of climate changeinduced marine and coastal geohazard), funded by the erasmus+ KA220-HED call - cooperation partnerships in higher education. Budget Euro 397.000€.

2021-2025

PI of the Task Force LITHOMAR (Assessing the relationships between lithospheric processes and seafloor topography at oceanic hotspots and divergent margins) funded by the International Lithosphere Program (ILP - https://www.scl-ilp.org/) for the establishment of a network of experts, from European and non-European countries, to improve the understanding of interactions between endogenous (tectonics, volcanism and fluid circulation) and underwater surface processes, on long and short term space-time scales, at oceanic hotspots and divergent margins; Budget Euro 20.000.

2017-2019

PI - DEEPGEO project "Deepsea Bioconstructions as expression of geomorphic and oceanographic processes - "funded by Milano-Bicocca University ("quota competitiva"); Budget Euro 15.000.

2013-2016

Scientific Responsible for an agreement signed between CoNISMa and the University of Milano-Bicocca for the implementation of national activities of the "European Marine Strategy Framework Directive programme" coordinated by ISPRA, for data provision and compilation of a "Report on Expert Judgment" for the habitats Callogorgia verticellata (Assessment Area Canale di Sicilia) and White Corals (Assessment Area Northern Ionian Sea). Budget: 32.000€.

Pagina 2/6



TEACHING ACTIVITY

2022-today

Member of the teaching board for the doctoral school in Marine Sciences Technology and Management (MTM) at the University of Milano-Bicocca.

2005-today

Academic activity aimed at promoting the field of geo-marine sciences within the Department's course of studies in Geology and Marine Sciences of the University of Milano-Bicocca, lecturing different courses (among which "marine Geology" and "fundamentals in Marine Physical Geography"), tutoring more than 20 thesis projects for BC and MSc students, 2 PhD students and 5 post-doc positions, organizing dedicated doctoral schools for PhD students (UAV/ROV and Immersive Virtual Reality for research in volcanically, tectonically and climatically sensitive areas; Seafloor mapping & Marine Management) and tutoring or co-tutoring Erasmus mobility and international traineeship opportunities for MSc students.

2020-today

Involvement in teaching activity and evaluator for PhD students at the Arctic University of Norway, within the framework of the AKMA (Advanced Knowledge of Methane in the Arctic) project (https://akma-project.com/).

2019

Coordinator of the training course in "Mapping technologies in coral Reef environments", on behalf of the Submarine Geomorphology Working Group (IAG), organized at the MARHE center (https://marhe.unimib.it/activities/education/mapping-technologies-in-coralreefs-environments/) Phd and Master students and professionals.

2009-2016

Member of the teaching board for the doctoral school in Earth Sciences (2009-2013) and in chemical, biological and environmental sciences (2014-2016) at the University of Milano-Bicocca.

ORGANIZATION OF SCIENTIFIC MEETINGS (last 10 years)

2016 Co-Convener session "GM12.1/NH5.10/SSP3.19 "Seafloor- and Sub-Seafloor Expression of Geomorphic and Tectonic Processes" EGU General Assembly 2016. Vienna, 17-22 April, 2016.

2017 Convener special session "Acquisition, processing and interpretation of marine geology data" METROSEA – IMEKO TC19 - Workshop on metrology for the sea, Naples, Italy, 11-13 October, 2017.

2017 Co-Convener session "Submarine Geomorphology - S30" - 9th International Congress of Geomorphology. New Delhi, India, 6-11 November, 2017.

Co-Convener session GM11.1/OS4.12/SSP3.24 "Submarine geomorphology" EGU General 2018 Assembly 2018. Vienna, Austria, 8-13 April, 2018.

2019 Co-Convener session GM11.1/OS4.29/SSP3.14/TS4.10 "Submarine geomorphology" EGU General Assembly 2019. Vienna, Austria, 7-12 Aprile, 2019.

Co-Convener session "Submarine geomorphology" Regional Conference on Geomorphology RCG2019 - Geomorphology of Climatically and Tectonically sensitive areas -, Athens, Greece, 19-21 September, 2019

Co-Convener session "EP11B Submarine Geomorphology and Sub seafloor Seismic Geomorphology for Paleo-environmental Reconstruction" AGU2019, San Francisco, USA, 9-13 December, 2019

2020 Co-Convener session GM6.7/OS4.31/SSP3.16 "Submarine geomorphology, and advances in seabed mapping and classification" EGU General Assembly 2020 in the online format (sharing Geoscience online.

Co-Convener - session "EP065 Submarine and Seismic Geomorphology" AGU2020, in the online format 1-17 December 2020.

Co-Convener - session GM6.3/ OS4/SSP3 "Submarine geomorphology" vEGU General Assembly 2021 2021, 19-30 April.

Co-Convener - Session "Geology and Ecosystems" - SGI (Italian Geological Society) conference, Trieste, 14-16 September 2021

2022 Co-Convener - session GM6.10/ OS1/SSP3 "Submarine geomorphology" EGU22 General Assembly, 23-27 May 2022. https://meetingorganizer.copernicus.org/EGU22/session/43897

Co-Organizer of the International Conference on Seafloor Landforms, Processes and Evolution. 4-6 2022

FURTHER INFORMATION

Invited Speaker and visiting scholar periods

January-June 2020: Visiting scholar at CAGE (Centre of excellence for Arctic Gas Hydrates, Environment and Climate) - Arctic University of Norway (UiT), Tromsø, Norway within the framework of the AKMA project (https://akma-project.com/), 2019-2023, and involvement in the associated oceanographic cruises on board Kronprins Haakon (November 2020 and May 2021), as responsible for the planning of ROV AEGIR6000-based multibeam surveys and seafloor photomosaic at cold

Page 3/6

July, La Valletta, Malta (https://www.um.edu.mt/events/seafloor2022).

Carriodiani Vitao

seeps sites located offshore Svalbard.

2021 - Invited lecturer at The University of Haifa, Department of Marine Geosciences, for the Seminar Program — Semester A (2021-22). Title of seminar: Coupling optical and acoustic remote sensing techniques in coral reef environments for geomorphological studies. 22 November 2021.

2021 – Invited lecturer at the INES school (International School on INtegrated Environmental Studies in the Arctic - University of Milano-Bicocca) on "Natural gas seepage in marine setting and implications in relation to climate change".

2019 – Invited lecturer at "Jornadas del CUIA en Argentina" X edition, 2-15 May 2018. Title of talk: Marine Geohazard and Implication for Offshore Resources Management: the experience in CoNISMa for the MAGIC project" in collaboration with Prof. F.L. Chiocci.

Consulting and non-academic appointments

- 2020: Consultant for CoNISMa within the framework of "EMODNET -High Resolution Seabed Mapping (SUB-Contract SHOM/Conisma)" project.
- 2017: Consultant for the Ministry of Agriculture, Rural Development and Environment, Department of Fishery and Marine Resources of the Republic of Cyprus for the preparation of the Scope of work (SoW) for a survey of the Eratosthenes Seamount in the EEZ of The Republic of Cyprus (Tender No.: 9/2017).
- 2004-2008: Principle Marine Geophysicist and chief scientist on board oceanographic vessels for commercial surveys (site surveys, route surveys, archeology, research and recovery).

Oceanographic expeditions

Alessandra Savini participated in more than 30 oceanographic expeditions carried out in the framework of European and international projects and national research projects funded by MIUR or MATT, or other public and/or private institutions and Industry, leading 17 of them (chief scientist in 8 oceanographic expeditions organized within the framework of research projects).

Editorial Activity, research monographs and chapters in collective volumes

- 2021 today: Member of the editorial board as Associate Editor for the open access journal Frontiers in Marine Geosciences (I.F. 3.498) - https://www.frontiersin.org/journals/earth-science/sections/marinegeoscience#editorial-board
- Invited author for the chapter: Savini, A., Krastel, S., Micallef, A., 2022. Perspectives on Submarine Geomorphology: An Introduction. In: Shroder, J.J.F. (Ed.), Treatise on Geomorphology, vol. 8. Elsevier, Academic Press, pp. 811–829. https://dx.doi.org/ 10.1016/B978-0-12-818234-5.00192-Included in a new edition of the "treatise on Geomorphology" published by Elsevier.
- 2018 2021: Guest Editor on Water, MDPI (I.F. 2.54) special issue "Landscape and Landforms of Terrestrial and Marine Areas" (M. Soldati, F. Foglini, M. Prampolini, A. Savini) https://www.mdpi.com/journal/water/special issues/Landscapes Landforms Marine
- 2018: Editor A. Micallef, S. Krastel, A. Savini, 2018. Submarine Geomorphology, Springer. Book Series "Springer Geology". (https://www.springer.com/gp/book/9783319578514)
- 2015-2017: Guest Editor on Deep Sea Resaerch PartII Topical Studies in Oceanography Elsevier (I.F. 2,69) special issue "Towards ecosystem based management and monitoring of the deep Mediterranean, North -East Atlantic and Beyond", (https://www.sciencedirect.com/journal/deep-sea-research-part-ii-topical-studies-in-oceanography/vol/145).
- 2021: Invited author for the chapter: Basso D. & Savini A. Shoreline changes in response to sealevel rise: Are Maldivian atolls really disappearing? In: Malatesta S, Schmidt di Friedberg M, Zubair S, Mohamed M and Bowen D (eds.) Atolls of the Maldives: Nissology and Geography. Rowman and Littlefield International Book Series Rethinking the islands. Chapter 10. ISBN 978-1-78660-661-7

Evaluator And Referee

- 2012-2016: External evaluator for CNR shiptime (R/V Urania) requests
- 2021: ANVUR reviewer (Earth Sciences)
- 2019: Proposal reviewer for National Science Fundation
- 2010 today: Referee for the following journals: Frontiers in Marine Geosciences, Frontiers in Marine Sciences, Basin Research, Marine Geology, Journal of Continental Shelf Research, Marine and Petroleum Geology, Natural Hazards and Earth System Sciences, Deep-sea Research, Geodiversitas, Journal of Coastal Research, Geological Society of London (Spec. Pub.), Geosciences, Water, Palaeogeography Palaeoclimatology Palaeoecologyt.

ATTACHMENT

List of the top publications in the main research field (in the last ten years)

Personal data

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

Date: Milan, 28 April 2022 Signature: Alessandra Savini



List of the top publications in the main research field (in the last ten years)

- Bialik OM, Varzi AG, Durán R, Le Bas T, Gauci A, Savini A and Micallef A (2022) Mesophotic Depth Biogenic Accumulations ("Biogenic Mounds") Offshore the Maltese Islands, Central Mediterranean Sea. Front. Mar. Sci. 9:803687. doi: 10.3389/fmars.2022.803687
- Bonali, F.L.; Russo, E.; Vitello, F.; Antoniou, V.; Marchese, F.; Fallati, L.; Bracchi, V.; Corti, N.; Savini, A.; Whitworth, M.; et al (2022).
 How Academics and the Public Experienced Immersive Virtual Reality for Geo-Education. Geosciences 2022, 12, 9.
 https://doi.org/10.3390/geosciences12010009
- 3. Argentino C., Savini A., Panieri G. (2022) Integrating Fine-Scale Habitat Mapping and Pore Water Analysis in Cold Seep Research: A Case Study from the SW Barents Sea. In: Mienert J., Berndt C., Tréhu A.M., Camerlenghi A., Liu CS. (eds) World Atlas of Submarine Gas Hydrates in Continental Margins. Springer, Cham. https://doi.org/10.1007/978-3-030-81186-0_43.
- 4. Savini A., Krastel S and Micallef A (2021). Perspectives on Submarine Geomorphology: An Introduction. Reference Module in Earth Systems and Environmental Sciences, Elsevier, ISBN: 9780124095489 https://doi.org/10.1016/B978-0-12-818234-5.00192-9.
- 5. Micallef A., Krastel S and Savini A. (2021). Submarine Geomorphology. Geological Society, London, Memoirs (2021):M58-2021-2. http://dx.doi.org/10.1144/M58-2021-2
- 6. Soldati, M.; Prampolini, M.; Foglini, F.; Savini, A. (2021). Landscapes and Landforms of Terrestrial and Marine Areas: A Way Forward. Water, 13, x, doi.org/10.3390/xxxxx
- 7. Saliu F., Meucci E., Allevi C., Savini A., Imiete I.E., Della Pergola R. (2021) Evaluation of chitosan aggregates as pickering emulsifier for the remediation of marine sediments. Chemosphere (273) 129733. https://doi.org/10.1016/j.chemosphere.2021.129733
- 8. Prampolini M., Savini A., Foglini F., Soldati M. (2020) Seven Good Reasons for Integrating Terrestrial and Marine Spatial Datasets in Changing Environments. Water 2020, 12, 2221.
- 9. Fallati L., Saponari L., Savini A., Marchese F., Corselli C. Galli, P. (2020) Multi-Temporal UAV Data and Object-Based Image Analysis (OBIA) for Estimation of Substrate Changes in a Post-Bleaching Scenario on a Maldivian Reef. Remote Sens. 2020, 12, 2093
- Marchese F., Bracchi V.A., Lisi G., Basso D., Corselli C. & Savini A. (2020). Assessing Fine-Scale Distribution and Volume of Mediterranean Algal Reefs through Terrain Analysis of Multibeam Bathymetric Data. A Case Study in the Southern Adriatic Continental Shelf. Water 12(1):157 DOI:10.3390/w12010157
- 11. Fallati L., Polidori A., Salvatore C., Saponari L., Savini A., Galli P. (2019). Anthropogenic Marine Debris assessment with Unmanned Aerial Vehicle imagery and deep learning: A case study along the beaches of the Republic of Maldives. Science of the Total Environment 693 (2019) 133581. https://doi.org/10.1016/j.scitotenv.2019.133581
- 12. Foglini F, Grande V, Marchese F, Bracchi VA, Prampolini M, Angeletti L, Castellan G, Chimienti G, Hansen IM, Gudmundsen M, Meroni AN, Mercorella A, Vertino A, Badalamenti F, Corselli C, Erdal I, Martorelli E, Savini A and Taviani M (2019). Application of Hyperspectral Imaging to Underwater Habitat Mapping, Southern Adriatic Sea. Sensors (19) 2261; doi:10.3390/s19102261
- 13. Bracchi V.A., Basso D., Savini A. and Corselli C. (2019). Algal reefs (Coralligenous) from glacial stages: origin and nature of a submerged tabular relief (Hyblean Plateau, Italy). Marine Geology (411) 119-132.
- 14. Bonali FL, Tibaldi A, Marchese F, Fallati L, Russo E, Corselli C, Savini A (2019). UAV-based surveying in volcano-tectonics: an example from the Iceland rift. J. Struct. Geol. (121) 46–64.
- 15. Lo Iacono C., Savini A., Huvenne V.A.I, Gracia E (2019) Habitat Mapping of Cold-Water Corals in the Mediterranean Sea. In: Orejas C., Jimenez C. Mediterranean Cold-Water Corals: Past, Present and Future. Coral reefs of the World 9 Springer https://doi.org/10.1007/978-3-319-91608-8_15
- 16. Savini A., Pinson S., Bistacchi A. and C.W. Holland (2018). Imaging shallow gas migration pathways in a mud-volcano province using an autonomous underwater vehicle (Malta Plateau, Mediterranean Sea). Near Surface Geophysics, doi: 10.1002/nsg.12017
- 17. Grehan A. J., Arnaud-haond S., D'onghia G., Savini A., Yesson C. (2017). Towards ecosystem based management and monitoring of the deep Mediterranean, North-East Atlantic and Beyond. Deep-Sea Research. Part 2. Topical Studies In Oceanography, vol. 145, p. 1-7, ISSN: 0967-0645, doi: 10.1016/j.dsr2.2017.09.014
- 18. Bracchi V, Basso D, Marchese F, Corselli C, Savini A (2017). Coralligenous morphotypes on subhorizontal substrate: A new categorization. Continental Shelf Research, vol. 144, p. 10-20, ISSN: 0278-4343, doi: 10.1016/j.csr.2017.06.005
- Bargain A, Marchese F., Savini A., Taviani M., Fabri MC (2017). Santa Maria di Leuca province (Mediterranean Sea): Identification of suitable mounds for cold-water coral settlement using geomorphometric proxies and maxent methods. FRONTIERS IN MARINE SCIENCE, vol. 4, 338, ISSN: 2296-7745, doi: 10.3389/fmars.2017.00338
- 20. Fallati, L, Savini, A, Sterlacchini, S, Galli, P. (2017). Land use and land cover (LULC) of the Republic of the Maldives: first national map and LULC change analysis using remote-sensing data. ENVIRONMENTAL MONITORING AND ASSESSMENT, vol. 189, p. 1-15, ISSN: 0167-6369, doi: 10.1007/s10661-017-6120-2
- 21. Davies JS, Guillaumont B, Tempera F, Vertino A, Beuck L, Ólafsdóttir SH, Smith C, Fosså JH, Van den Beld IMJ, Savini A, Rengstorf A, Bayle C, Bourillet JF, Arnaud-Haond S, Grehan A. (2017). A cold-water coral biota classification scheme for ecosystem-based management of the deep sea. Deep-Sea Res. Part 2. Topical Studies in Oceanography vol. 145, p. 102-109
- 22. D'Onghia G, Calculli C, Capezzuto F, Carlucci R, Carluccio A, Grehan A, Indennidate A, Maiorano P, Mastrototaro F, Pollice A, Savini A, Sion L, Tursi A. (2017). Anthropogenic impact in the Santa Maria di Leuca cold-water coral province (Mediterranean Sea): observations and conservation straits. Deep-Sea Research. Part 2. Topical Studies in Oceanography Vol. 145, p. 87-101.
- 23. Savini A., Marchese F., Verdicchio G. and Vertino A. (2016) Submarine slide topography and the distribution of vulnerable marine ecosystems: a case study in the Ionian Sea (eastern Mediterranean). In: Lamarche G, et al. (eds) Submarine mass movements and their consequences, Advances in Natural and Technological Hazards Research, Springer, Dordrecht, 41, pp 163–170.
- Savini A, Vertino A, Marchese F, Beuck L, Freiwald A (2014) Mapping Cold-Water Coral Habitats at Different Scales within the northern lonian Sea (central Mediterranean): an assessment of coral coverage and associated vulnerability. PLoS ONE 9(1): e87108. DOI: 10.1371/journal.pone.0087108



25. Savini A., Basso D., Bracchi V.A., Corselli C., Pennetta M., (2012). Maërl-bed Mapping and carbonate quantification on submerged terraces offshore the Cilento Peninsula (Tyrrhenian Sea, Italy). Geodiversitas, 34(1), 77-98.