

GIUSTO LO BUE

ORCID: 0000-0003-0238-7766

Scopus: 57887521500 - <https://www.scopus.com/authid/detail.uri?authorId=57887521500>

Researchgate: <https://www.researchgate.net/profile/Giusto-Lo-Bue>

Contact info:

+39 3398684545

giusto.lobue01@universitadipavia.it

giustolobue@gmail.com

ITALIAN: Mother language.

ENGLISH: Fluent speaking, reading and writing.



PROFESSIONAL EXPERIENCE

01/04/2026 – 01/04/2027: Research fellowship at Department of Earth and Environmental Sciences, University of Pavia. Scientific Tutor: Prof. Nicoletta Mancin.

01/11/2025 – 28/02/2026: Research fellowship at Department of Earth and Environmental Sciences, University of Pavia. Scientific Tutor: Prof. Nicoletta Mancin.

18/07/2024 to 23/07/2024 Principal Investigator for a dual imaging (Neutron and X-ray) tomography experiment conducted at the Spallation Neutron Source SINQ, Paul Scherrer Institute (PSI), Villigen, Switzerland. Project Title: “Assessing Anthropogenic Impact: Detection of microplastic particles in bioengineered marine substrate via non-destructive complementary neutron and X-ray imaging.”

01/04/2024 to 01/07/2024: Erasmus+ Trainee at IFREMER – DYNECO (Plouzané, France). Conducted traineeship within IFREMER's (LEBCO), focusing on the impact of microplastics on *Sabellaria alveolata* reefs. Responsibilities included: experimental design and setup, sampling, optical microscopy and spectroscopy analysis, image processing, and statistical analysis. Gained practical experience in benthic ecology principles, environmental assessment techniques, data interpretation, and scientific communication. Hosting institution tutor: Dr. Stanislas Dubois

01/04/2024 to 01/06/2024: Principal investigator for a research residency at IFREMER (Plouzané, France), awarded by participation in the Collaborative Hub on Coastal Knowledge (CHECK) program. Project Title: “The Microplastics Benthic Ballet: assessing the accumulation patterns and physiological impacts in *Sabellaria alveolata* reefs”. Tutor: Dr. Stanislas Dubois

07/02/2022 to 07/08/2022: Laboratory Technician at HERAtech S.r.l., Via Setta 4, Sasso Marconi, Bologna (ISO/IEC 17011 accredited laboratory, ISO 9001:2015, ISO 14001:2015). Integrated water resource management: analysis of samples from drinking water, wastewater, and sludge. Utilization of cultural, molecular, and microscopy methods for taxonomic identification of algae, fungi, protozoa, meio-benthos. Toxicity testing on *D. magna* and *V. fischeri*. Field investigations and preparation of technical documents for *Legionella spp.* risk assessment.

09/2019 to 01/2021: Internship for experimental thesis conducted at the Departments of Biology and Biotechnology "L. Spallanzani" (Ecology Laboratory) and Earth and Environmental Sciences (Micropaleontology Laboratory) of the University of Pavia.

03/06/2019 to 06/06/2019: Participation in the monitoring project of *Ellisolandia elongata* in the Marine Protected Area at Porto Venere Regional Park, Palmaria Island, organized by ENEA.

16/10/2017 to 31/12/2017: Internship at the National Institute of Geophysics and Volcanology (INGV), Palermo division, Sicily, Italy.

EDUCATION

01/10/2022 to 06/02/2026 | Ph.D. in Earth and Environmental Sciences at the Department of Earth and Environmental Sciences, University of Pavia. Final grade: Excellent *cum laude*. Thesis title: "Plasticagglutinated" reef by the genus *Sabellaria* Lamarck 1818 (Polychaeta, Anellida) in Mediterranean and Atlantic: microplastic pollution and associated risk | Tutor: Nicoletta Mancin. Co-tutor: Stefania Lisco (University of Bari).

16/10/2018 to 07/06/2021: Master degree in Experimental and Applied Biology, specialization: 'Environmental Biology and Biodiversity'. Awarded by: University of Pavia. Final grade: 110L/110. Experimental Thesis: 'Foraminifera shells as granules for constructing arenaceous tubes of *Sabellaria alveolata* (Polychaeta): random choice or selection?'. Advisor: Prof. Agnese Marchini; Co-advisor: Prof. Nicoletta Mancin.

15/11/2014 to 24/07/2018: Bachelor degree in Natural and Environmental Sciences. Awarded by: University of Palermo. Final grade: 104/110. Experimental Thesis: 'Analysis of major and trace constituents in rainfall waters in the Etna area'. Advisor: Prof. Francesco Parelo. Co-advisor: Dr. Walter D'Alessandro (Chief Researcher at the National Institute of Geophysics and Volcanology – INGV)

PUBLICATIONS (*corresponding author)

PEER REVIEWED JOURNALS

- **Lo Bue G.*** Mancin N., El Rakwe M., Dubois S., "When shelter is not a refuge: reporting microplastic abundance in European (France) *Sabellaria alveolata* reef ecosystems" – Regional Studies in Marine Science, Volume 96, 2026, 104931, ISSN 2352-4855, <https://doi.org/10.1016/j.rsma.2026.104931>
- **Lo Bue G.*** Festa R.M., Musa M., Riccardi M.P., Croce A., Marchini A., Mancin N., "Microplastic quantification in *Sabellaria* reefs: A validated protocol for extraction from biogenic agglutinated matrices" – Environmental Science and Pollution Research, 2026, <https://doi.org/10.1007/s11356-026-37573-7>
- Rotta F. *, Capelli C., Marchini A., Leoni B., **Lo Bue G.**, Musa M., Riccardi M. P., Lepori F. "Beyond the surface – Microplastic hotspots in the water column of a top plastic-polluted deep lake" – Journal of Great Lakes Research, Volume 52, 2026, <https://doi.org/10.1016/j.jglr.2025.102740>

- **Lo Bue G.***, Ciacci C., Burattini S., Frontalini F., Santos-Simón M., Mancin N. “Characterizing antioxidant defense and energy metabolism strategy in a neglected Mediterranean ecosystem engineer: *Sabellaria spinulosa* (Leuckart, 1849)” – Journal of Experimental Marine Biology and Ecology, Volume 593, 2025, 152135, ISSN 0022-0981, <https://doi.org/10.1016/j.jembe.2025.152135>
- **Lo Bue G.***, Musa M., Marchini A., Riccardi M. P., Dubois S. F., Lisco S., Moretti M., De Luca A., Mancin N. “Microplastic pollution in the littoral environment: insights from the largest Mediterranean *Sabellaria spinulosa* (Annelida) reef and shoreface sediments” – Marine Pollution Bulletin, Volume 217, 2025, 118132, ISSN 0025-326X, <https://doi.org/10.1016/j.marpolbul.2025.118132>
- **Lo Bue G.***, Marchini A., Musa M., Croce A., Gatti G., Riccardi M.P., Lisco S., Mancin N. “First attempt to quantify microplastics in Mediterranean *Sabellaria spinulosa* (Annelida, Polychaeta) bioconstructions” – Marine Pollution Bulletin, Volume 196, 2023, 115659, ISSN 0025-326X, <https://doi.org/10.1016/j.marpolbul.2023.115659>
- Mancin N.*, dell'Acqua F., Riccardi M.P., **Lo Bue G.**, Marchini A. “Fractal analysis highlights analogies in arenaceous tubes of *Sabellaria alveolata* (Metazoa, Polychaeta) and agglutinated tests of foraminifera (Protista)” – PLoS ONE 17(8): e0273096, 2022. <https://doi.org/10.1371/journal.pone.0273096>
- **Lo Bue G.**, Marchini A.*, Mancin N. “Selection or random picking? Foraminiferal tests in *Sabellaria alveolata* (Linnaeus, 1767) bioconstructions” – Marine Environmental Research, Volume 176, 2022, 105616, ISSN 0141-1136, <https://doi.org/10.1016/j.marenvres.2022.105616>

CONFERENCE PROCEEDINGS

- **Lo Bue G.**, Musa M., Marchini A., Riccardi M.P., Dubois S.F., Lisco S., Moretti M., De Luca A., Mancin N.; Bio-engineered reefs in the anthropocene: Microplastic abundance in the largest Mediterranean *Sabellaria spinulosa* reef system | 2025 International Temperate Reefs Symposium | Brest, France 1-5/07/2025 | talk.
- **Lo Bue G.**, Dubois S.F., Quere C., Corporeau C., Guyomard K., Le Roy V., Mancin N.; Investigating the effects of Microplastic pollution on *Sabellaria alveolata* (Annelida): A Multi-Proxy approach in a controlled environment | 2025 International Temperate Reefs Symposium | Brest, France 1-5/07/2025 | poster.
- Ciacci C., Canesi L., Mancin N., **Lo Bue G.**, Burattini S., Frontalini F.; Assessment of antioxidant defenses and energy metabolism in neglected marine organisms: an integrated approach for *Sabellaria spinulosa* (Sabellariidae, Annelida) | XXV Meeting of the Italian Association of Developmental and Comparative Immunobiology (IADCI) | Alessandria, 19 – 21/02/2025 | talk.
- Festa R. M., **Lo Bue G.**, Musa M., Marchini A., Riccardi M.P., Mancin N.; Extraction of microplastics from marine environmental matrices: density separation protocol validation | 92 Società Geologia Italiana (SGI) congress, Bari, 02-05/09/2024 | poster.
- **Lo Bue G.**, Musa M., Lisco S., Marchini A., Riccardi M.P., Mancin N.; Microplastic dynamics in the littoral reeds created by sabellariid polychaetes in the southern Adriatic Sea. 92 Società Geologia Italiana (SGI) congress, Bari, 02-05/09/2024 | talk.
- **Lo Bue G.**, Marchini A., Mancin N.; Microplastics agglutinated in Sabellariid bioconstructions (Polychaeta, anellida) of northern Adriatic Sea - Part 2: first attempt to quantify their amount | 91st Società Geologia Italiana (SGI) congress, Potenza, 19-21/09/2023 | talk.

- **Lo Bue G., Marchini A., Musa M., Croce A., Riccardi M.P., Mancin N.;** Microplastics agglutinated in Sabellariid bioconstructions (Polychaeta, anellida) of northern Adriatic Sea - Part 1: An integrated approach for a correct identification in environmental matrices | 91st Società Geologia Italiana (SGI) congress, Potenza, 19-21/09/2023 | poster.
- **Lo Bue G., Mancin N., Baroni M., Marchini A.;** Microplastiche agglutinate nelle biocostruzioni a policheti dell'adriatico settentrionale - Parte 2: possibile selezione o semplice accumulo? | 52nd Società Italiana di Biologia Marina (SIBM) congress, Messina, 12-15/06/2023 | poster.
- **Lo Bue G., Marchini A., Musa M., Croce A., Riccardi M.P., Mancin N.;** Microplastiche agglutinate nelle biocostruzioni a policheti dell'adriatico settentrionale - Parte 1: come riconoscerle attraverso un approccio qualitativo integrato | 52nd Società Italiana di Biologia Marina (SIBM) congress, Messina, 12-15/06/2023 | poster.
- **Lo Bue G., Marchini A., Mancin N.;** Contribution of calcareous protists (Foraminifera) to bioconstructions of the honeycomb worm Sabellaria alveolata | Marine Key Habitat & NIS Symposia - RAC SPA | 19-23/09/2022 poster.
- **Lo Bue G., Mancin N., Riccardi M.P., Marchini A.;** Presence of foraminiferal tests in Sabellaria alveolata (Anellida: Polichaeta) tubes in southern Sicily: cherry-picking or random selection? | 51st Società Italiana di Biologia Marina (SIBM) congress, Trieste | poster.
- **Lo Bue G., Guastella R., Marchini A. & Mancin N.;** Are foraminiferal tests selected or randomly picked by Sabellaria alveolata (Linnaeus) to form its arenaceous bioconstructions? 90th Società Geologia Italiana (SGI) congress | talk.

ORGANIZATION OF NATIONAL EVENTS

- Organizer of "Incontro dei Dottorandi e Giovani Ricercatori in Ecologia e Scienze dei Sistemi Acquatici" congress, supported by Pavia University, Italian Ecology Society (S.It.E), Italian Oceanography and Limnology Association (AIOL), Successione Ecologia | 12-14/04/2023 | online.
- Co-conviner at the Aquatic toxicology, traditional and emerging pollutants session for "Incontro dei Dottorandi e Giovani Ricercatori in Ecologia e Scienze dei Sistemi Acquatici" congress | Pavia University, Italian Ecology Society (S.It.E), Italian Oceanography and Limnology Association, Successione Ecologia | 12-14/04/2023 | online.

FUNDS, GRANTS, MEMBERSHIPS & ACADEMIC ACTIVITY

Funds & Grants:

- **Participation grant** awarded by the Biodiversity Gateway of National Biodiversity Future Center (CNR-ISMAR, CNR e NBFC) for the "Course on Multivariate Analysis Implementing Essential Tools and Methods, using PRIMER and PERMANOVA+" | Plymouth, 20-31/10/2025.
- **Principal Investigator:** 3 days of beamtime competitively granted at the Spallation Neutron Source SINQ, Paul Scherrer Institute (PSI), Villigen, Switzerland, for the project titled "Assessing Anthropogenic Impact: Detection of microplastic particles in bioengineered marine substrate via non-destructive complementary neutron and X-ray imaging." 4/10/2026 6:56:00 AM

- **Principal Investigator:** Secured a competitive grant through the Collaborative Hub on Coastal Knowledge (CHECK) program, funding a research residency at IFREMER (Plouzané, France). The project was titled "The Microplastics Benthic Ballet: assessing the accumulation patterns and physiological impacts in *Sabellaria alveolata* reefs."
- **Participation grant** awarded by the SGI for the 91st congress of Italian Geological Society (SGI), Potenza, 19-21/09/2023.

Memberships & Academic Activity:

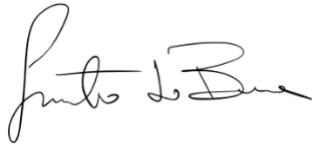
- Contributed to the organization of the Earth and Environmental Sciences PhD Day 21/02/2025 | University of Pavia.
- Member of the Italian Geological Society (SGI), since 2023.
- Member of Italian Marine Biology Society (SIBM), since 2021.
- Participation as promoter at the "European Researcher's night" organized by University of Pavia (2019, 2023, 2024).
- Member of the Earth and Environmental Sciences Department council as students delegate, University of Palermo (2015-2017).

SUPERVISING & MENTORING ACTIVITIES

- **10/02/2026 – 12/02/2026:** Organizer and lecturer of the Ph.D. course "The global challenge of plastic pollution", 5 CFU/ECTS <https://phd.unipv.it/la-sfida-globale-dell'inquinamento-da-plastica-anno-2026/> .
- **2025-2026:** Co-Tutoring of bachelor degree: Beatrice Dal Passo. Tutor: Nicoletta Mancin.
- **05/12/2024:** Seminar "Microplastics pollution in marine environment: the case study of coastal *Sabellaria spinulosa* bioconstructions" as part of the curriculum for the course 'Governance and Enhancement of Natural Resources', offered within the Degree Programs of Management [02401], Government and Public Policy [03404], and Political Science and International Relations [03400]; Dipartimento di Scienze Economiche e Aziendali, UNIPV.
- **2024-2025:** Co-Tutoring of bachelor degree: Martina Mercuri, " Inquinamento da microplastica nelle biocostruzioni del polichete *Sabellaria spinulosa* (Annelida) dell'Adriatico meridionale: manipolazioni in vasca". Tutor: Nicoletta Mancin.
- **2024-2025:** Master degree co-Tutoring: Rosa Maria Festa, " Estrazione di microplastiche da matrici naturali dell'ambiente marino costiero: validazione di un nuovo protocollo". Tutor: Nicoletta Mancin.
- **2022-2025:** Tutor for "General Ecology" course, UNIPV.
- **2023-2025:** Tutor for "Paleontology - Earth sciences principles" course, UNIPV.
- **25/11/2022:** Seminar "La vita in un granello di sabbia" - PLS project, UNIPV.
- **30/11/2022:** Tutoring activity to the students of Natural Sciences and Technologies course from University of Pavia, during the visit at the Genova Aquarium and at the Museum of Natural History 'Giacomo Doria'.

- **2022-2023:** Bachelor degree co-Tutoring: Marianna Baroni, "Accumulo di microplastiche nelle biocostruzioni arenacee a Sabellaria spinulosa (Annelida, Polychaeta) del Mar Adriatico Settentrionale". Tutor: Nicoletta Mancin.

Pavia, IT 29/03/2026

A handwritten signature in black ink, appearing to read 'Marianna Baroni', written in a cursive style.