

# CURRICULUM VITAE

## PERSONAL DATA

Name and surname: **FRANCESCO ENRICHETTI**

Date and place of birth: :

Address:

Telephone:

E-mail:

## EDUCATION

Dates: 2015-2019  
Organization: Università degli Studi di Genova  
Qualification awarded: **PhD Degree in Marine Science**

Dates: 2014  
Organization: Università Politecnica delle Marche  
Qualification awarded: **National enablement for the profession of Specialist Biologist**

Dates: 2011-2014  
Organization: Università Politecnica delle Marche  
Qualification awarded: **Specialist Bachelor's Degree in Marine Biology (110 cum laudae) Class LM-6 D.M. 270/2004**

## PROFESSIONAL ACTIVITIES

2020-2021

Post-Doc at Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Università degli Studi di Genova.

Project: "**Identificazione delle aree di interesse naturalistico e conservazionistico del Mar Ligure profondo. Studio propedeutico di inquadramento per le aree di esclusione e di reperimento per l'immersione deliberata in mare dei materiali di escavo dei fondali marini** di cui al D.M. 173 del 2016, previsto nella Convenzione tra Regione Liguria e ARPAL per la realizzazione delle attività funzionali al piano di tutela delle acque del 29 Novembre 2019"

2018-2020

Two-years Post-Doc (art. 22, Legge 240/2010; DR 6144/2015; DR 5514/2018; DDG 6375/2018)

Project: "**Studio di fattibilità per la pulizia di Fondali profondi del Savonese da attrezzi da pesca persi**", settore scientifico disciplinare BIO/05 ZOOLOGIA presso DISTAV, Università degli Studi di Genova

2018

**Visiting at IMAR – Instituto do mar, Departamento de Oceanografia e Pescas, Horta, Portugal.**

Working on ROV-Imaging data processing, megabenthic community analysis and GIS maps elaboration

2016-2017

**Teaching support** within the course of Zoology (Prof. Roberto Pronzato, 1st Level Bachelor's Degree in Biology, DISTAV, Università degli Studi di Genova), focusing on the main biological and ecological characteristics of protozoans, meiofaunal organisms, flatworms, annelids and other invertebrates

2016

**Taxonomic expert and scientific consultancy** in the workshop for ARPAT technicians aimed at enhancing the knowledge on the trawling bycatch identification. Agenzia Regionale per La Protezione Ambientale della Toscana, Dipartimento di Livorno, Via G. Marradi, 114

2013-2014

Specialist Bachelor's Degree in Marine Biology internship at Dipartimento di Scienze della Vita e dell'Ambiente (DiSVA), Università Politecnica delle Marche, Via Brecce Bianche - Monte Dago, 60131 Ancona. Phylogeny and distribution of brown trout in Italy within the European Project Life+ TROTA. Sampling field activities, genetic analysis (DNA extraction and purification, primer design, PCR amplification, sequencing, restriction enzyme analysis)

2013

**External internship at CNR – Istituto di Scienze del Mare (ISMAR)**, Microbiology Laboratory, Ancona, Largo Fiera della Pesca, 1. Analysis of megabenthic fauna through HD video footages

2013

**Practices Internship at Royal NIOZ, Netherlands Institute for Sea Research, Department of Marine Ecology (MEE)** - Landsdiep 4, 1797 SZ 't Horntje, Texel, Netherlands. Analysis of North Sea seeps megafauna; taxonomic analysis of mollusks and echinoderms. Study of the megabenthic communities of the Cleaver Bank (North Sea) through HD video footages analysis

### **RESEARCH PROGRAMS**

**“Lost coral reefs: ancient deep-sea bioherms in a modern world”** project founded by Università degli Studi di Genova - Area Ricerca e Trasferimento Tecnologico, Servizio Supporto alla ricerca (“Curiosity Driven”, D.R. n. 3578 del 24/09/2020), 2021. Deep-sea exploration of the white coral reef thanatocoenoses and the historical trawling grounds of the Ligurian Sea through Side Scan Sonar (SSS) analysis and ROV (Multipluto) on board of the Daedalus catamaran (Engineer Guido Gay, GAYMARINE)

**“BIOMOUNT” project funded by MIUR-SIR (RBSI14HC9O)**, 2017. Biocoenotic characterization of the fauna inhabiting the Ligurian canyons and seamounts through SSS and ROV analysis on board of the Daedalus catamaran (Engineer Guido Gay, GAYMARINE)

**Marine Strategy**, 2015-2018. Four oceanographic campaigns within the MAATM-ARPAL Project Marine Strategy to monitor the health status and distribution of coralligenous habitat in Liguria, 40-200m. Survey 2015-2016 on board of the R/V *Astrea* (ISPRA), surveys 2017-2018 with Colmar (Lorenzo Gionfra). Multibeam, benthos sampling, ROV exploration and monitoring

**“Chilean Patagonia”**, 2017-18. Research expedition in the Fjord Chilean Region (Puerto Cisnes) for benthic sampling within the project Puyuhuapi Expedition (Scientific Director Dr. Giovanni Daneri, CIEP - *Centro de Investigación en Ecosistemas de la Patagonia*). Scuba dives exploration, zoological sampling collection, underwater photography, laboratory activities.

**“Red shrimp trawling discard”**, 2016-2017. Monitoring activity on board of the trawling vessel *M/P Pinetto Giacomo*, Costantini Alfonso, Santa Margherita Ligure, Genova. Identification of benthic fishes and invertebrates.

**Artisanal and recreative fishing impact**, 2016-2017. About 50 boardings on artisanal and recreative fishing vessels of Sanremo, Vado Ligure, Savona, Portofino, Santa Margherita Ligure. Monitoring of catches, discard, entanglement events and gears loss frequency. Identification and characterization of fishes and invertebrates

### **PROFESSIONAL SOCIETIES**

DSBS – Deep Sea Biological Society  
SIBM – Società Italiana di Biologia Marina  
UZI – Unione Zoologica Italiana

### **AWARDS**

**Premio UZI Giovani Ricercatori 2021** “per la rilevanza scientifica del contributo presentato” – Giornate Interdisciplinari di Zoologia, 13-15 settembre 2021

## **PERSONAL SKILLS**

### **• Teaching activity:**

Lecturer within the "Corso di Laurea Magistrale 10723 BIOLOGIA ED ECOLOGIA MARINA" (classe LM-6 LM-75) – A.A. 2021/'22. Subject: 61890 Oceanografia, 16 hours from 21/02/2022 to 31/03/2023.

Theoretical and practical lessons as teaching support during the course of Zoology (Prof. Roberto Pronzato, 1st Level Bachelor's Degree in Biology, DISTAV, Università degli Studi di Genova, 2016-2017), focusing on the main biological and ecological characteristics of protozoans, meiofaunal organisms, flatworms, annelids and other invertebrates

Invited speaker within the course of Marine Landscape Ecology (Specialist Bachelor's Degree in Marine Science), Prof. Carlo Nike Bianchi, DISTAV, Università degli Studi di Genova. Title of the seminar: "Mesophotic coral forests and ecological indexes"

Invited speaker. UNITE – Università della terza età. Genova, 8 April 2019. Comunità bentoniche del circolitorale profondo ligure: biodiversità ed impatto antropico.

### **• Scientific paper revision:**

Reviewer activity since 2017 for several international scientific journals, including: *Plos One* (2017, 2019), *Regional Studies in Marine Science* (2018), *Thalassia: an International Journal of Marine Sciences* (2019), *Biological Conservation* (2020) and *Conservation Biology* (2020).

### **• Field and computer competences:**

ROV exploration. Multibeam and Side Scan Sonar analysis. ROV-Imaging through ImageJ and Final Cut Pro Software, visual census, sorting and identification of organisms, community structure data elaboration, ecological statistics. Elaboration of images from benthic landers

Plankton and benthos sampling and analysis of chemical-physical parameters through oceanographic devices, such as dredge, box corer, multicorer, grab, plankton nets, rosette, niskin

Scuba sampling techniques: visual census, underwater photography, square sampling method, suction pump, long-term panels for succession studies

Basic concepts of files management, Word, Excel, Access, PowerPoint, notions of Adobe Photoshop, Affinity Photo, Final Cut Pro, QuantumGIS and statistical software like PAST and R. Competences for both Windows and Mac

### **• Laboratory competences:**

Sorting of macro and megabenthos, realization of museum preparations, tissue preparations with the technique of resin inclusion, skeletal and polypar preparations realized with the Critical Point Drier technique for the SEM (scanning electron microscopy) observation, preparation of permanent slides for octocorals sclerites.

Genomic and proteomic analysis (DNA and proteins extraction and purification, PCR and Real Time PCR, Sanger DNA sequencing, restriction enzyme, electrophoresis SDS-PAGE)



## **NATIONAL AND INTERNATIONAL CONFERENCES** (*international conferences are underlined*)

3<sup>rd</sup> International Workshop on Taxonomy of Atlanto-Mediterranean Deep-Sea Sponges, 6-11 June 2016, Spanish Oceanographic Institute (IEO), Spain. Enrichetti F., Bavestrello G., Bertolino M., Bertolotto R.M., Pansini M., Pronzato R., Bo M. Horny Sponge Grounds of the Ligurian Sea. Contributed talk.

48<sup>th</sup> Congresso della Società Italiana di Biologia Marina (SIBM), 7-9 June 2017, Rome, Italy. Ravanetti G., Bavestrello G., Betti F., Bo M., Cappanera V., Enrichetti F., Nonnis-Marzano F., Venturini S., Cattaneo-Vietti R. Fishing impact on the red Mediterranean gorgonian *Paramuricea clavata* of the Portofino MPA. Contributed talk.

Società Italiana di Biologia Marina (SIBM) Workshop on the coralligenous of the Italian waters, 5-8 September 2017, Ustica Island, Palermo, Italy. Bo M., Enrichetti F., Bianchi C.N., Canese S., Montefalcone M., Morri C., Salvati E., Tunesi L., Bavestrello G. Deep coralligenous environmental status: Marine Strategy ROV working protocol and resulting index. Contributed talk.

Second Joint Meeting of Société Zoologique de France (SZF) and Unione Zoologica Italiana (UZI), 18-23 September 2017, Torino, Italy. Coppari M., Bavestrello G., Carpenteri P., Enrichetti F., Mancusi C., Serena F., Bo M. Trawling impact in the Italian Seas: biodiversity, trends and conservation of megabenthic communities. Contributed talk.

Second Joint Meeting of Société Zoologique de France (SZF) and Unione Zoologica Italiana (UZI), 18-23 September 2017, Torino, Italy. Betti F., Bavestrello G., Bo M., Cappanera V., Coppari M., Enrichetti F., Fravega F., Ravanetti G., Venturini S., Cattaneo-Vietti R. Anthropogenic pressure and environmental sustainability in the MPA of Portofino (Ligurian Sea). Poster.

Second Joint Meeting of Société Zoologique de France (SZF) and Unione Zoologica Italiana (UZI), 18-23 September 2017, Torino, Italy. Enrichetti F., Bava S., Bavestrello G., Betti F., Bo M. Deep coralligenous biodiversity and artisanal fishing effort: the case of the Maledetti Shoal (Savona, Ligurian Sea). Poster.

15<sup>th</sup> Deep-Sea Biology Symposium (DSBS), 9-14 September 2018, Monterey, CA, USA. Enrichetti F., Toma M., Dominguez-Carrió C., Bavestrello G., Betti F., Canese S., Cattaneo-Vietti R., Bo M. Biodiversity and vulnerability of the Ligurian deep circalittoral megabenthic communities. Contributed talk.

75<sup>th</sup> Congresso Nazionale dell'Unione Zoologica Italiana (UZI), 25-28 September 2018, Lecce, Italy. Enrichetti F., Toma M., Dominguez-Carrió C., Bavestrello G., Betti F., Bo M. Megabenthic biodiversity and anthropogenic disturbance of the Ligurian deep continental shelf. Contributed talk.

Forum on Fisheries Science in the Mediterranean and Black Sea. General Fisheries Commission for the Mediterranean (GFCM), 10-14 December 2018, FAO Headquarters, Rome, Italy. Enrichetti F., Bavestrello G., Betti F., Bava S., Bo M. Deep-sea sensitive habitats identification: two examples from the Ligurian Sea (NW Mediterranean Sea). Contributed talk.

Working Group on Marine Protected Areas (WGMPA), including a session on Essential Fish Habitats (EFH). General Fisheries Commission for the Mediterranean (GFCM), Scientific Advisory Committee on Fisheries (SAC), 18-21 February 2019, FAO Headquarters, Rome, Italy. Enrichetti F., Bavestrello G., Bava S., Bo M. New FRA Proposal: Deep-sea sensitive habitats from the Ligurian Sea (NW Mediterranean Sea). Contributed talk.

Subregional Committee for the Western Mediterranean (SRC-WM). General Fisheries Commission for the Mediterranean (GFCM), Scientific Advisory Committee on Fisheries (SAC), 5 April 2019, Sète, France. Enrichetti F., Bavestrello G., Bava S., Bo M. New FRA Proposal: Deep-sea sensitive habitats from the Ligurian Sea (NW Mediterranean Sea). Contributed talk.

50° Congresso della Società Italiana di Biologia Marina, Livorno, 10-14 giugno 2019. Enrichetti F., Dominguez-Carrió C., Toma M., Bavestrello G., Betti F., Bo M. Foreste animali mesofotiche del Mar Ligure. Contributed talk.

50° Congresso della Società Italiana di Biologia Marina, Livorno, 10-14 giugno 2019. Betti F., Bo M., Enrichetti F., Bavestrello G. Idrozoj, sentinelle dei cambiamenti climatici sulle scogliere mediterranee. Contributed talk.

On-line webinar Progetti del FLAG Savonese, 18 dicembre 2020. Enrichetti F. Azione pilota di pulizia dei fondali. Contributed talk.

On line webinars WWF, Blue Panda Week and Portofino MPA "No more ghosts: testing solutions to end wasteful ghost gear fishing", 27 maggio 2021, 8 giugno 2021. Enrichetti F. Impatto degli attrezzi da pesca sulle comunità bentoniche dell'AMP di Portofino e della Liguria. Contributed talk.

Giornate interdisciplinari di Zoologia, Unione Zoologica Italiana, 13-15 settembre 2021. Simposio "Giovani ricercatori under 35". Enrichetti F., Baldrighi E., Bavestrello G., Giangrande A., Putignano M., Bo M. Sabellid polychaetes as new habitat-forming species from the mesophotic Ligurian Sea. Contributed talk.



**PEER-REVIEWED PUBLICATIONS** (first-name articles are underlined)

- 1) Enrichetti, F., Bava, S., Bavestrello, G., Betti, F., Lanteri, L., & Bo, M. (2019). Artisanal fishing impact on deep coralligenous animal forests: a Mediterranean case study of marine vulnerability. *Ocean & Coastal Management*, 177, 112-126.
- 2) Enrichetti, F., Bo, M., Morri, C., Montefalcone, M., Toma, M., Bavestrello, G., Tunesi L., Canese S., Giusti M., Salvati S., Bertolotto R.M., & Bianchi, C. N. (2019). Assessing the environmental status of temperate mesophotic reefs: A new, integrated methodological approach. *Ecological Indicators*, 102, 218-229.
- 3) Enrichetti, F., Dominguez-Carrió, C., Toma, M., Bavestrello, G., Betti, F., Canese, S., & Bo, M. (2019). Megabenthic communities of the Ligurian deep continental shelf and shelf break (NW Mediterranean Sea). *PloS one*, 14(10), e0223949.
- 4) Splendiani, A., Fioravanti, T., Giovannotti, M., Olivieri, L., Ruggeri, P., Nisi Cerioni, P., Vanni S., **Enrichetti F.**, & Caputo Barucchi, V. (2017). Museum samples could help to reconstruct the original distribution of *Salmo trutta* complex in Italy. *Journal of Fish Biology*, 90(6), 2443-2451.
- 5) Betti, F., Bavestrello, G., Fravega, L., Bo, M., Coppari, M., **Enrichetti, F.**, Fravega L., & Cattaneo-Vietti, R. (2019). On the effects of recreational SCUBA diving on fragile benthic species: the Portofino MPA (NW Mediterranean Sea) case study. *Ocean & Coastal Management*, 182, 104926.
- 6) Betti, F., Bavestrello, G., Bo, M., **Enrichetti, F.**, Loi, A., Wanderlingh, A., Pérez-Santos I., & Daneri, G. (2017). Benthic biodiversity and ecological gradients in the Seno Magdalena (Puyuhuapi Fjord, Chile). *Estuarine, Coastal and Shelf Science*, 198, 269-278.
- 7) Enrichetti, F., Dominguez-Carrió, C., Toma, M., Bavestrello, G., Canese, S., & Bo, M. (2020). Assessment and distribution of seafloor litter on the deep Ligurian continental shelf and shelf break (NW Mediterranean Sea). *Marine Pollution Bulletin*, 151, 110872.
- 8) Enrichetti, F., Bavestrello, G., Coppari, M., Betti, F., & Bo, M. (2018). *Placogorgia coronata* first documented record in Italian waters: Use of trawl bycatch to unveil vulnerable deep-sea ecosystems. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 28(5), 1123-1138.
- 9) Betti, F., Bavestrello, G., Bo, M., **Enrichetti, F.**, & Cattaneo-Vietti, R. (2020). Effects of the 2018 exceptional storm on the *Paramuricea clavata* (Anthozoa, Octocorallia) population of the Portofino Promontory (Mediterranean Sea). *Regional Studies in Marine Science*, 34, 101037.
- 10) Betti, F., Bavestrello, G., Bo, M., Coppari, M., **Enrichetti, F.**, Manuele, M., & Cattaneo-Vietti, R. (2017). Exceptional strandings of the purple snail *Janthina pallida* Thompson, 1840 (Gastropoda: Epitoniidae) and first record of an alien goose barnacle along the Ligurian coast (western Mediterranean Sea). *The European Zoological Journal*, 84(1), 488-495.
- 11) Betti, F., Bavestrello, G., Bo, M., Ravanetti, G., **Enrichetti, F.**, Coppari, M., Cappanera, V., Venturini, S., & Cattaneo-Vietti, R. (2020). Evidences of fishing impact on the coastal gorgonian forests inside the Portofino MPA (NW Mediterranean Sea). *Ocean & Coastal Management*, 187, 105105.
- 12) Enrichetti, F., Bavestrello, G., Betti, F., Coppari, M., Toma, M., Pronzato, R., Canese S., Bertolino M., Costa G., Pansini M., & Bo, M. (2020). Keratose-dominated sponge grounds from temperate mesophotic ecosystems (NW Mediterranean Sea). *Marine Ecology*, e12620.
- 13) Azzola, A., Bavestrello, G., Bertolino, M., Bianchi, C. N., Bo, M., **Enrichetti, F.**, Morri, C., Oprandi, A., Toma, M., & Montefalcone, M. (2021). You cannot conserve a species that has not been found: The case of the marine sponge *Axinella polypoides* in Liguria, Italy. *Aquatic Conservation: Marine and Freshwater Ecosystems*.
- 14) Enrichetti, F., Bavestrello, G., Betti, F., Rindi, F., Tregrosso, A., & Bo, M. (2021). Fate of lost fishing gears: Experimental evidence of biofouling colonization patterns from the northwestern Mediterranean Sea. *Environmental Pollution*, 268, 115746.
- 15) Betti, F., Castro, L. R., Bavestrello, G., **Enrichetti, F.**, & Daneri, G. (2020). Distribution, abundance and ecological requirements of the benthic phase of *Munida gregaria* (Anomura; Munididae) in the Puyuhuapi Fjord (Chilean Patagonia). *Regional Studies in Marine Science*, 40, 101534.
- 16) Bo, M., Coppari, M., Betti, F., **Enrichetti, F.**, Bertolino, M., Massa, F., Bava, S., Gay, G., Cattaneo-Vietti, R., & Bavestrello, G. (2020). The high biodiversity and vulnerability of two Mediterranean bathyal seamounts support the need for creating offshore protected areas. *Aquatic Conservation: Marine and Freshwater Ecosystems*.
- 17) Van De Water, J. A., Coppari, M., **Enrichetti, F.**, Ferrier-Pagès, C., & Bo, M. (2020). Local Conditions Influence the Prokaryotic Communities Associated with the Mesophotic Black Coral *Antipathella subpinnata*. *Frontiers in microbiology*, 11, 2423.
- 18) Betti, F., Bo, M., **Enrichetti, F.**, Manuele, M., Cattaneo-Vietti, R., & Bavestrello, G. (2019). Massive strandings of *Velella velella* (Hydrozoa: Anthoathecata: Porpitidae) in the Ligurian Sea (North-western Mediterranean Sea). *The European Zoological Journal*, 86(1), 343-353.
- 19) Betti, F., **Enrichetti, F.**, Bavestrello, G., Costa, A., Moreni, A., Bo, M., Ortiz, S.P., & Daneri, G. (2021). Hard-bottom megabenthic communities of a Chilean fjord system: sentinels for climate change? *Frontiers in Marine Science*, 8, 1004.

