



Marco Basili

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Nationality: Italian
Date of birth: 19/02/1991

Education

From 1/11/2021 to date

PhD candidate (37° cycle)

FishMed - Alma Mater Studiorum - Università di Bologna

Research topic

[Theme: “Microbiome: fish health, food safety and environmental sustainability” – “Microbioma: salute del pesce, sicurezza alimentare e sostenibilità ambientale”]

From 09/2016 to 02/2019

Master degree

Marine Biology (LM-06)

Università Politecnica delle Marche (Italy)

Vote: 108/110

Thesis title:

“Microbial life on marine plastic debris: diversity patterns and degradation potential”

Performed at

IRBIM – CNR (Ancona, Italy)

Synthetic description of research activities

Ecology of microbial communities associated with marine plastic debris in comparison to environmental samples (seawater and sediments); bioinformatic and statistical analyses of High-Throughput Sequencing (HTS) data (16S rRNA gene metabarcoding).

From 09/2013 to 02/2016

Bachelor degree

Biological Sciences

Università Politecnica delle Marche (Italy)

Vote: 94/110

Thesis title

“Evolution and importance of diadromous migrations”

Performed at

Laboratory of Comparative Anatomy

Synthetic description of research activities

Comparison of anadromy and catadromy in freshwater and marine fish species.

Work Experience

From 03/2020 to 31/10/2021

Research Fellow (“Assegno di Ricerca”)

IRBIM CNR (Ancona, Italy), Microbial Ecology Laboratory

Scientific Supervisor:

Dr. Grazia Marina Quero

Research topic

“Studio del microbioma di orate selvatiche ed allevate in impianti di acquacoltura” (“*Study of wild and farmed seabream microbiome*”) within the H2020 project “CIRCLES – Controlling mIcRobiomes CircuLations for bETter food Systems”

Synthetic description of research activities

Sampling of wild and farmed seabream; collection of fish tissues and environmental samples for microbiome studies; samples’ processing for DNA extraction and HTS data analysis (16S rRNA gene metabarcoding).

From 5/2017 to 7/2017

National Observer of Tuna fishing

Oceanis Srl

Synthetic description of research activities

National observer on board of a fishing tugboat for Atlantic bluefin tuna fishing activities in the Southern Mediterranean Sea (Italy and Malta).

International and national internships

- From 10/2019 to 03/2020** **Campus World International internship**
University of Tennessee (USA)
Department of Microbiology
Supervisor
Dr. Karen Lloyd
Synthetic description of research activities
Application of bioinformatic analyses (e.g., Anv'io, Metawrap) for metagenomic data of microbial communities living in extreme environments (e.g., volcanos and hot springs from Costa Rica).
- From 5/2017 to 7/2017** **National internship**
Università Politecnica delle Marche (Italy)
Laboratory of Ecology
Supervisor:
Dr. Silvia Bianchelli
Synthetic description of research activities
Study of meiofaunal diversity in marine sediment associated to the presence of different marine seagrass and seaweed species.

Participation to projects' sampling campaigns

- 2020-2021** **CIRCLES Project's WP5 and WP6 sampling campaign**
Sampling activities at the seabream commercial aquaculture plant "Ittica Golfo di Follonica" within the H2020 Project CIRCLES "*Controlling mIcRobiomes CircuLations for bEtter food Systems*"
Synthetic description of activities
Collection of adult farmed seabream and processing and storage of fish tissues and environmental samples for microbiome studies.
- 2020-2021** **SNAPSHOT Project's IV and V sampling campaign**
Sampling activities onboard the TecnoPesca II for the collection of seawater along the Marche Region coasts, within the SNAPSHOT project ("*Synoptic Assessment of Human Pressures on key Mediterranean Hot Spots*") funded and coordinated by the Department of Earth System Sciences and Environmental Technologies (DSSTTA) of the National Research Council (CNR)
Synthetic description of activities
Sampling of seawater and processing/filtering of samples for microbiological and microbial ecology analyses.
- Summer 2020** **WATERCARE Project's sampling campaign**
Sampling activities at the Arzilla (Marche, Italy) estuary for microbiological analyses on fecal indicator bacteria within the Interreg Italy-Croatia WaterCare ("*Water management solutions for reducing microbial environment impact in coastal areas*") funded by the European Regional Development Fund and coordinated by CNR IRBIM
Synthetic description of activities
Sampling of fresh- and seawater and processing/filtering of samples for microbiological and microbial ecology analyses for classical and molecular detection and enumeration of Fecal Indicator Bacteria (FIB).

International Event Organization

- 10/2020** Co-organizer of the 3-days online event "Ocean Hackathon® 2020 5th Edition" by the Campus Mondial De La Mer (France) and hosted in Ancona (Italy) as data adviser and team support for the Italian hosts

Publications and Posters

Basili M. (2020) “An hidden community, or: how microbiome can affect the gilthead sea bream development, health, safety and food quality”. IRBIM DAY. 10th December 2020 (online IRBIM-CNR event).

Basili, M., Quero, G.M., Giovannelli, D., Manini, E., Vignaroli, C., Avio, C.G., De Marco, R. and Luna, G.M., (2020). Major role of surrounding environment in shaping biofilm community composition on marine plastic debris. *Frontiers in Marine Science*, 7, p.262. <https://doi.org/10.3389/fmars.2020.00262> (IF 3.661, Q1 Scimago)

Fullerton, K.M., Schrenk, M.O., Yücel, M., Manini, E., **Basili, M.**, [...], Karen G. Lloyd, (2021). Effect of tectonic processes on biosphere–geosphere feedbacks across a convergent margin. *Nature Geoscience*. <https://doi.org/10.1038/s41561-021-00725-0> (IF 13.566, Q1 Scimago)

Basili, M., Campanelli, A., Frapiccini, E., Luna, G. M., & Quero, G. M. (2021). Occurrence and distribution of microbial pollutants in coastal areas of the Adriatic Sea influenced by river discharge. *Environmental Pollution*, 285, 117672. (IF 8.071, Q1 Scimago)

Basili M., Techtmann S.M., Zaggia L., Luna G.M., and Quero G.M. (2021) Partitioning and sources of microbial pollution in the lagoon of Venice. *Science of The Total Environment*, 151755.

Cordone, A., D'Errico, G., Magliulo, M., Bolinesi, F., Selci, M., **Basili, M.**, ... & Mangoni, O. (2021). Bacterioplankton Diversity and Distribution in Relation to Phytoplankton Community Structure in the Ross Sea surface waters. Submitted in *Frontiers Microbiology*.

Franzo A., Baldrighi E., Grassi E., Grego M., Balsamo M., **Basili M.**, Semprucci F. (2021). Free living nematodes of Mediterranean ports: a mandatory contribution for their use in ecological quality assessment. Submitted in *Environmental Pollution*

Personal skills and license

Languages

Italian (mother language)

English (advanced level in listening, reading writing and speaking)

Informatic Skills

Advanced skills in informatic processing, data manipulation and graphic elaboration

Bioinformatic programs

DADA2 (analysis of metabarcoding data to obtain Amplicon Sequence Variants)

Mothur (analysis of metabarcoding data to obtain Amplicon Sequence Variants or Operational Taxonomic Units)

Anv'io (analysis of metagenomic data for read processing, mapping, assembly)

Statistical tools

Rstudio (main packages dedicated to microbial ecology and multivariate statistical analyses: *vegan*, *phyloseq*)

Jupyter notebook (online and shared platform for Rstudio)

Microsoft Excel (for data analysis, graph generation)

Inkscape and ImageJ (graphical editing)

Network analysis and other

Cytoscape (network analysis and graph production and editing)

QGIS (creation, editing, visualization and analysis of geospatial information)

Informatic languages used for data processing

R

Python

date
13/12/2021

Signature

