

CURRICULUM VITAE

Last update: 02 10 2025



Ivonne Rojas

Coral Ecology & Biology Lab
Marine Science Group
Department of Biological, Geological and Environmental Sciences
Alma Mater Studiorum – University of Bologna
Via F. Selmi 3
I-40126 Bologna, Italy

Fano Marine Center
Viale Adriatico 1/N, 61032 Fano, PU, Italy

E-mail: ivonne.rojasmartine2@unibo.it

Education

- Mar 2025 – today **PhD in innovative technologies and sustainable use of Mediterranean Sea fishery and biological resources (FishMed-PhD, 40th cycle).**
PhD student and (MSCA)COFUND fellow at the University of Bologna.
Fano Marine Center.
- Oct 2022 – Oct 2023 **Master's degree in physics of Complex Systems.**
University of the Balearic Islands (Spain).
Title 's thesis: Lagrangian studies in the Western Mediterranean Sea
Manage real data to integrate trajectories across the Western
Mediterranean Sea for the analysis of a significant microplastic
crossroad in this region.
- Aug 2015 – Nov 2021 **Bachelor's degree in physics**
Francisco José de Caldas Distrital University (Colombia)
Title of the thesis: Simulation of Different Age Distributions for the
Analysis of the Aging Curve of a Population of "S. cerevisiae".
Modeling and simulation of a biological phenomenon of the growth
curve and age distribution of a population of yeast cells.

Areas of scientific interest

Connection between physics and biology through complex systems. Use of mathematical and programming tools to study biological problems, focusing on synthetic biology, surface growth models, gene networks, 3D modeling, big data, oceanography, and Lagrangian modeling. Effects of ocean warming and acidification on the ecology and biology of calcifying marine organisms such as corals. Effects of increasing seawater acidity on the bioaccumulation of contaminants by Mediterranean corals.

Academic professional experience

- Mar 2025 – today **Doctoral Researcher at the University of Bologna**
- Nov 2023– Mar 2025 **Young Researcher at the Research group Single Cell Microfluidics.**
Conducting research within a research group established by students
from the University of Los Andes and the District University, focusing
on biology in systems, microfluidics, and stochastic process
simulation.
- Sep 2020– Apr 2022 **Intern at the Biophysics Laboratory**
Modeling and simulation of a biological phenomenon of the growth
curve and age distribution of a population of yeast cells.
Become a member of a Systems Biology research group.

Aug 2019- Dec 2020 **Intern at the Physics Colloquium.**
Provided academic and logistical support for the Physics Colloquium, a series of talks on various physics topics featuring speakers from both the university and other national and international institutions.

Other professional experience

Apr 2022 – Aug 2022 **Teacher at Wesleyano del Norte School.**
Teaching in the field of physics and robotics at the high school level. Basic programming in Python and C++. Organizing and executing cross-disciplinary projects involving different areas such as English, chemistry, and biology.

Honors & awards

Mar 2025 – today **Fellowship FutureData4EU (Marie Skłodowska-Curie Actions – COFUND Doctoral Programme).**
The project seeks to strengthen cooperation with the non-academic world, enabling young PhD students to develop their professional skills within local, regional, and/or national socioeconomic ecosystems in the area of Big Data.

Jun 2022 – Oct 2023 **Carolina Foundation Scholarship.**
Accredited with the scholarship from the Foundation to pursue a master's degree in Complex Systems Physics at the University of the Balearic Islands (Palma de Mallorca). The aim is to contribute to the achievement of the Sustainable Development Goals and facilitate scientific collaboration and partnerships between Spain and Latin American countries.

Other qualifications

Feb 2022 Padi Open Water Diver

Supervision of students

Apr 2025 – Today Rachele Rossi, student in Biological Sciences. University of Bologna.

Scientific seminars and Congress

Oct 2025 Meeting for PhD Students and Young Researchers in Ecology and Aquatic Systems Sciences. (Online) Oral presentation.
“First evidence of trace elements bioaccumulation in the Mediterranean coral *Balanophyllia europaea* (Scleractinia, Dendrophylliidae)”

Jul 2025 XXIX AIOL-APS-ETS Congress "Shaping Aquatic Science for the Future We

Envision" (Ancona, Italy) Poster.

Molecular and physiological acclimatization of the Mediterranean zooxanthellate coral *Balanophyllia europaea* at a natural CO₂ vent

- Sep 2024 Bioinformatics, Computational biology, modeling, and Simulation of Natural Systems seminar (Bogota, Colombia) Oral presentation.
"The physical properties allow us to separate different states during the aging of "*S. cerevisiae*"
- Jun 2021 Micromachines 2021 1st International Conference on Micromachines and Applications (ICMA 2021) (Online) Abstract.
"Simulation of Different Age Distributions for the Analysis of the Aging Curve of a Population of *S. cerevisiae*"
- Sep 2019 Physics Week (Bogota, Colombia) Oral presentation.
"Raman Analysis of Copper Sulfate Pentahydrate"

Disseminating activities

- Sep 2025 "European Researchers' Night 2025" - Fano Marine Center
- May 2021 "Organs on a Chip" – Andes University

Scientific Courses

- Sep 2025 Workshop "Marine Data 4 Mediterranean Sea 2025" (Online)
- Jul 2025 Second Course on Porting Code and Algorithms to GPUs (Bologna)
- May 2024 Non-Equilibrium and Active Systems (Bogota)
- Jun 2021 Summer school: Modeling and Tools for Data Analysis (Online)

Languages

- | | |
|----------------|---------------|
| Spanish | Mother tongue |
| English | B2 |
| Italian | A2 |

Technical skills and competences

Proficient in Windows operating systems and Microsoft Office Suite (Excel, Word, PowerPoint). Experienced in image editing with Inkscape and video recording/editing using OBS Studio. Solid knowledge of Python programming, working with Jupyter Notebooks,

Google Colab, and Anaconda environments. Familiar with statistical analysis and data visualization using RStudio.

Social and organizational skills

I am a proactive individual who enjoys challenges and stepping outside my comfort zone. I adapt easily to different environments and take responsibility for fulfilling my duties. I work effectively both independently and as part of a team. Experienced in using technological tools to organize and manage meetings and information. Strong communication skills developed through public speaking and teaching experience.