

## Contacts

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## Profile

PhD student in Ocean and Climate Science with a background in Physics. My PhD project aims at studying ocean predictability, variability and mesoscale turbulence in the ocean, with a focus on the Mediterranean Sea, and to the application of nonequilibrium thermodynamics to the study of the predictability and the dynamics of climate oscillations such as ENSO and MJO.

## Keywords

ocean predictability, climate variability, nonequilibrium thermodynamics, stochastic thermodynamics, climate oscillations, ocean mesoscale

## Languages

**Italian**      Mothertongue  
**English**      C2

## Programming skills

**Python**      Advanced  
**Fortran**      Intermediate  
**Bash**      Intermediate

## Awards

- 2nd Place of the Outstanding Young Scientist Award in the Graduate/Undergraduate's Oral Presentation category - 13th International Workshop on Modeling the Ocean (IWMO)

# Roberta Benincasa

PhD student

## Work experience

AUG 2023 - OCT 2023 | **UNIVERSITY OF BOLOGNA, ITALY**

### Scholarship for postgraduate research activities

Affiliation: Department of Physics and Astronomy

## Education and Training

SEPT 2017 - OCT 2020 | **UNIVERSITY OF TRIESTE, ITALY**

### Bachelor's Degree in Physics

Final grade: 110 cum laude

Thesis' title: Analysis of climate trends of temperature and precipitation in the European region

Supervisor: Dr. Filippo Giorgi (ICTP), Prof. Dario Gaiotti (UNIITS)

SEPT 2020 - MAR 2023 | **UNIVERSITY OF BOLOGNA, ITALY**

### Master's Degree in Physics of the Earth System

Final grade: 110 cum laude

Thesis' title: Ocean climate predictability study in the Mediterranean Sea

Supervisors: Prof. Nadia Pinardi (UNIBO), Dr. Giovanni Liguori (UNIBO), Prof. Hans von Storch (Helmholtz-Zentrum Hereon)

NOV 2023 - CURRENT | **UNIVERSITY OF BOLOGNA, ITALY**

### PhD Student

Affiliation: Department of Physics and Astronomy

PhD Programme: Future Earth, Climate Change and Societal Challenges

Supervisors: Prof. Nadia Pinardi (UNIBO), Prof Jeffrey B. Weiss (CU Boulder)

## Publications

- Benincasa, R., Liguori, G., Pinardi, N., and von Storch, H., *Internal and forced ocean variability in the Mediterranean Sea*, *Ocean Sci.*, 20, 1003-1012, 2024

## Conferences

- Oral presentation titled Internal and forced ocean variability in the Mediterranean Sea at the **13th International Workshop on Modeling the Ocean** at the Helmholtz-Zentrum Hereon, Hamburg, Germany (June 2023)
- Poster presentation titled Internal and forced ocean variability in the Mediterranean Sea at the workshop **Physics of Wave Turbulence and Beyond** at the Les Houches School of Physics, Les Houches, France (September 2024)
- Oral presentation titled NonEquilibrium Thermodynamics and Climate Predictability: Investigating Entropy Production and Frenesy at the **EGU General Assembly 2025** in Vienna, Austria (April - May 2025)