



## PROGRAMME

### 5<sup>th</sup> February 2025

13.00 Arrival and Registration of Participants

14.00 Welcome and Presentation of the National PhD School in Polar Sciences  
**Carlo Barbante, Salvatore Orlando, Antonio Marcomini**

14.30 COP29 - Role of the cryosphere in international negotiations  
**Florence Colleoni** (OGS)

Session Chair: **Barbara Stenni**

14.50 **Leonardo Parigi** (Arctic Observatory), *The Arctic in International Relations*

15.10 **Agostino Pinna** (MAE), *The Italian engagement in the Arctic*

15.30 **Mauro Mazzola** (CNR-ISP), *The Arctic Station Dirigibile Italia: Research and Logistics*

15.50 Coffee Break and Poster Overview

16.40 **Silvano Onofri** (CSNA), *PNRA - The Italian National Program of Antarctic Research*

17.00 **Annamaria Fioretti** (CNR-IGG), *The Antarctic Treaty System*

17.20 **Rocco Ascione, Gianluca Fasani** (ENEA), *PNRA's Expeditions in Antarctica: Logistics and Infrastructures*

17.40 **Franco Coren** (OGS), *The Laura Bassi Research Vessel: Characteristics and Scientific Potentials*

18.00 **Conclusion Remarks**  
**Carlo Barbante** (Ca' Foscari University of Venice)

### 6<sup>th</sup> February 2025

9.00 Welcome and description of the day's activities

Chairperson: **Silvia Illuminati** (University Politecnica Marche) **CURRICULUM Climate system**

9.10 **Introduction**

**Barbara Stenni** (Ca' Foscari University of Venice)

9.20 **Keynote**

**Giuliana Panieri** (OGS) *Methane Emissions in the Arctic: Challenges and Opportunities in Climate Science and Resource Exploration*

10.05 **1-SLIDE PRESENTATION**  
*1-slide presentation by the PhD students in the curriculum*

**CURRICULUM Biology, Ecology & Biodiversity**

10.20 **Introduction**

**Stefano Schiaparelli** (University of Genova)

10.30 **Keynote**

**Diego Fontaneto** (CNR-IRS), *Advances and shortfalls in the knowledge of Antarctic terrestrial biodiversity*

11.15 **1-SLIDE PRESENTATION**  
*1-slide presentation by the PhD students in the curriculum*

11.30 **Poster overview and discussion**

12.20 **Light lunch and poster overview/discussion**

Chairperson: **Carlo Baroni** (University of Pisa) **CURRICULUM Human Impacts**

13.20 **Introduction**

**Silvia Illuminati** (University Politecnica Marche)

13.30 **Keynote**

**Martin Wearing** (ESA), *Understanding the Polar regions with satellite Earth Observation: Activities of the ESA Polar Science Cluster*

14.15 **1-SLIDE PRESENTATION**  
*1-slide presentation by the PhD students in the curriculum*

**CURRICULUM Ocean and Cryosphere**

14.20 **Introduction**

**Giorgio Budillon** (University Parthenope Naples)

14.30 **Keynote**

**Luca Centurioni** (Scripps Institution of Oceanography), *In-Situ Observations of Essential Climate and Ocean Variables at the Air-Sea Interface with Surface Drifters: Sustained Global Network and Targeted Arrays (Extreme Events and Polar Area)*

15.15 **1-SLIDE PRESENTATION**  
*1-slide presentation by the PhD students in the curriculum*

15.25 Coffee Break and Poster overview/discussion

Chairperson: **Giorgio Budillon** (University Parthenope Naples) **CURRICULUM Astronomy, Space & Earth Observation**

15.55 **Introduction**

**Giuseppe Consolini** (INAF)

16.05 **Keynote**

**Paola De Michelis** (INGV), *The Polar Regions: A Window into Near-Earth Space*

16.50 **1-SLIDE PRESENTATION**  
*1-slide presentation by the PhD students in the curriculum*

**CURRICULUM Solid Earth**

17.00 **Introduction**

**Carlo Baroni** (University of Pisa)

17.10 **Keynote**

**Christine Siddoway** (Geology Department, Colorado College), *Bedrock-Ice Sheet Interactions in West Antarctica: Geological Evidence of Repeated Collapse and Recovery of the WAIS between 6 - 2 Myrs (Pliocene)*

17.55 **1-SLIDE PRESENTATION**  
*1-slide presentation by the PhD students in the curriculum*

18.00 **Federica Scarpa** (IASC), *The Role of Communication and Social Media in International Arctic Science*

18.15 **Giacomo Traversa**, *APECS Italy: the Italian branch of the international Association of Polar Early Career Scientists*

### 7<sup>th</sup> February 2025

9.00 Welcome and description of the day's activities **Carlo Barbante**

Chairperson: **Enrico Maiero**

9.10 **Sara Giansiracusa**, *Temporal Dynamics of Anthropogenic Contaminants in Sediments of the Kongsfjorden-Krossfjorden System (Svalbard, Norway)*

9.30 **Lagorio Serena**, *Aeolian Diatoms in Antarctic Ice Cores: Unveiling Past Climate and Environmental Changes*

9.50 **Rocco Ascione / Riccardo Scipinotti** (ENEA), *Online Connection with Mario Zucchelli Station and Concordia Station*

10.20 **Piers Larkman**, *Experimental and Conceptual Insights into the Spatial Scales of Ice Core Impurity Records*

10.40 **Rachele Lodi**, *Modelling PAH Distribution in Canadian Arctic Lowland Permafrost Tundra: Combining Large Scale to Local Perspectives*

11.00 Coffee Break

11.30 **Anna Baldo** (CNR-ISP), *Online Connection with Dirigibile Italia*

Chairperson: **Rachele Lodi**

12.00 **Enrico Maiero**, *Impacts of the Antarctic Surface Mass Balance Temporal Variability: From the Past to the Future*

12.20 **Silvia Picone**, *Impacts of Climate Change on Permafrost: Landscape and Hydrochemistry Changes*

12.40 **Alessandro Ciro Rappazzo**, *Microbial Response to Human Pollutants in Polar Lakes*

13.00 **Claudio Stefanini**, *Characterisation of Surface Snow Properties on the Antarctic Plateau from Satellite Microwave Sensors and IceSheet-Atmosphere Interactions*

## LIST OF POSTERS FROM 40TH CYCLE STUDENTS

### Curriculum Climate System

**Chelli Ginevra** - Volcanic Ash Dispersion across the Antarctic Plateau: Integrating paleo geochemical studies with ash dispersion modeling

**Roy Twishashish** - Study of ice-cores to reconstruct past climates via the application of laser ablation ICP-MS technology

**Jacob Tristan Melly** - Past wave climate reconstruction through paleo shoreline analysis and implications under future climate scenarios

**Calciati Luca** - Thermodynamic approach for understanding the near surface air cooling caused by himalayan glaciers under global warming

**D'Esposito Lauro** - Atmospheric variability in the Ross Sea: synoptic climatology and relationships to recent changes in salinity and sea ice concentration

**Di Felice Fabrizi Costanza** - Characterization of intense thunderstorm phenomena in mountain and foothill areas in the context of climate change

**Magnani Cecilia** - Investigating the influence of aerosol size, composition, and aging on Cloud Condensation Nuclei activity in mountain and polar environments

**Raspagni Valentina** - Optical characterization of mineral dust settled in Polar cryosphere to improve the understanding of climate-regulating processes

**Masseti Marco** - Polar dust sources (Arctic, Antarctic and Himalaya) in the Earth system

**Hussain Gulfam** - Investigation of the North Pole - South Pole Asymmetries using Paleoclimatic Records: Early Warning and Tipping Points

### Curriculum Ocean and Cryosphere

**Akhtar Mohammad** - Study of mass balances in alpine glaciers and impact on hydrological cycle

**Vignati Elena** - UV radiative transfer through the snowpack: an experimental characterization

**Di Biase Michele** - Assessment of debris thickness and distribution over glaciers in the Karakoram region

**Roscelli Letizia** - Reconstruction of sea ice dynamics and temperatures in the Ross Sea: insights from biomarkers in marine cores

**Di Pauli Mattia** - Numerical modeling of the stability of the George V Land (East Antarctica) continental margin: interplay between glacio-isostatic adjustment and ice sheet dynamics over the past Late Pleistocene interglacials

### Curriculum Human Impact

**Taberini Roberto** - Emerging chemicals in polar atmospheric aerosols

**Trvisanato Giorgia** - Impact of snow and snow melt on the distribution of cyclic volatile methylsiloxanes (cVMS)

### Curriculum Solid Earth

**Santucci Eleonora** - Analysis of micropaleontological assemblages from Antarctic marine sediment cores: the Pliocene as an analogue of the near future climate

**Dell'Anno Jan** - Past and present interactions between the ocean, sediments and ice in Antarctica

**Forina Domitilla** - Geomatics integrated sensors for deformation monitoring in Antarctica

**Ooi Shi Quan** - Analysing the subglacial crust and lithosphere and its influence on Antarctic ice sheets

### Curriculum Biology, Ecology and Biodiversity

**Schena Emma** - Trophodynamic indicators for estimating food web responses to cumulative impacts in the Barents Sea

**Kholdihaghighi Shaghayegh** - Physiological responses of polar organisms to global changes

**Campoli Lorenza Maria** - The phytoplankton community of the Ross Sea (Antarctica) and the interaction between ocean and cryosphere in a changing southern ocean

**Elefante Anna** - Macrozoobenthic community structure and bioaccumulation of trace elements along the trophic chain in the shallow coastal of Terra Nova bay (Antarctica)

**Berra Gabriele** - Assessing zooplankton functional traits and microplastic body burden through long term series in Kongsfjorden (Svalbard Islands)

**Difronzo Erica** - Multidisciplinary approach to study population dynamics of the Polar cod in a changing environment

**Gallo Gabriella** - Inspecting the microbial diversity in Antarctica environments: insights into the contribute to the climate change

**Esposito Mattia** - Parageobacillus thermantarcticus adaptation to Mars simulated environment

**Aurora Piscitelli** - Changing Polar Ecosystems: the role of key zooplankton species as microplastics vectors in the Antarctic and peri-Antarctic food web.

**Mercanti Ilaria** - Microbiome of Antarctic benthic invertebrates and its role in adaptation to freezing conditions

### Curriculum Astronomy, Space and Earth Observation

**Capponi Alessandro** - Measuring the spectrum of the Cosmic Microwave Background from Antarctica: the COSMO experiment

