

The conference "New Trends in Multidisciplinary Ocean Observation" that will take place at the Academy of Sciences of Lisbon, on the 26th of November 2026, jointly organised by the Portuguese Ocean Decade Committee and the Academy of Sciences of Lisbon, in partnership with the AIR Centre, will gather a wide spectrum of marine scientists with the aim to discuss emerging technologies and methodologies to observe the Ocean, with a particular focus on the Atlantic, ranging from cost-effective sensors, BGC ARGO floats and remote sensing to unmanned vehicles and SMART Cables. This conference aims to contribute to the UN Decade of Ocean Science for Sustainable Development, in particular Challenge 7 – "Sustainably expand the Global Ocean Observing System", and Challenge 9 – "Skills, knowledge, technology and participation for all". It also aims to contribute to AAORIA area of action "Atlantic Ocean Observing and Improving Modelling Capacities".

This event is endorsed by the UN Ocean Decade and is under the High Patronage of the President of the Portuguese Republic.

Programme

08:30 – 9h15 *Registration and welcome to participants*

09h15 *Opening Session:* José Francisco Rodrigues (ACL), Luis Menezes Pinheiro (CNDO, Univ. Aveiro e ACL), Miguel Miranda (AIR Centre e ACL)

09h30 *Overview of status and prospects of (e)DNA metabarcoding-based monitoring in the coastal and marine environments* – Filipe Oliveira Costa (CBMA and ARNET, Univ. Minho)

09h40 *eDNA autonomous biosampler: a tool for ocean biological studies* – Alfredo Martins, C. Magalhães, C., Derycke, S., Carneiro, F., Marques, P., Almeida, C., Silva, P., Lima, P. (INESC TEC)

09h50 *From Fisheries to Molecules: eDNA-Based Approaches for Fisheries Monitoring and beyond* – Miguel Santos (IPMA)

10h00 *Discussion*

10h10 *Keynote: The Global Ocean Observing System and the Ocean Eye Initiative* – Joanna Post (GOOS)

10h30 *From Temperature and Salinity to Biogeochemistry: The New Generation of Argo Observations* – Rita Esteves (IPMA)

10h40 *Heterogeneous sensors for remote and in-situ Ocean observation: scientific advances in marine litter detection* – Hugo Silva (INESC)

10h50 *From active to passive underwater acoustics: a (biased) overview* – Jesus, S. (LARSyS, Univ. Algarve)



11h00 *Discussion*

11h10 *Coffee Break*

11h40 *Digital Twin Ocean, Ocean Eye and Copernicus* – Andreia Carvalho (Mercator Ocean) *(online)*

11h50 *Space-Based Observation of the Great Atlantic Sargassum Belt* – André Valente (AIR Centre)

12h00 *Ocean observation from space: ESA current and future missions* – Carolina Sá (PT-Space)

12h10 *Discussion*

12h20 *Next-Generation of Ocean Observation: Autonomous Gliders and Integrated Monitoring Systems* – Inês Martins *et al*. (IH)

12h30 *Unlocking the Potential of High-Resolution Observations of Dynamic Ocean Features* – João Borges de Sousa (LAETA/FEUP)

12h40 *Ocean observation with maritime unmanned systems: from concept to operations* – Renato Mendes (LAETA/INEGI)

12h50 *Discussion*

13h00 *Lunch break*

14h10 *Madeira Oceanic Technological Platform* – Rui Caldeira (ARDITI)

14h20 *Autonomous robotics for Ocean Exploration: from marine observation to submarine intervention* – Carlos Silvestre (Univ. Macau, IST)

14h30 *Autonomous navigation: security challenges* – Ricardo Póvoa (ENIDH)

14h40 *Discussion*

14h50 *Acoustic monitoring capabilities at the Cape San Vicent* – Luciano Oliveira Junior (LARSyS, Univ. Algarve)

15h00 *Unveiling the ocean structure with underwater acoustics* – Leonardo Azevedo (CERENA/IST)

15h10 *NAAC (North Atlantic Acoustic Center): Turning Azores in the Center of Europe Atlantic Strategy* – Guilherme Beleza Vaz (blueOASIS)

15h20 *Discussion*

15h30 *Coffee Break*



16h00 *Long-Term Ocean Monitoring in Portugal: The EMSO-PT Contribution* – Carlos Sousa (IPMA)

16h10 *The role of AIR Centre in Multidisciplinary Ocean Observation* – Mafalda Carapuço (AIR Centre)

16h20 *MONIZEE, an infrastructure for monitoring the Portuguese coastal ocean – Installed Capacities, Challenges, Synergies and Sustainability* – João Vitorino, Martins, I., Zacarias, N., Lima, V. Alves, M. (IH)

16h30 *Discussion*

16h40 *Cost-effective sensors for coastal environmental services: A co-designed operational framework in the Lisbon Metropolitan Area* – Francisco Campuzano (+ATLANTIC CoLAB)

16h50 *Affordable Innovation for a Shared Ocean* – Alberto González-Díaz, Franco, N., Martin-Imholz, S. & Montoto-Martínez, T. (PLOCAN, Canaries, Spain)

17h00 *SMART Cables: revolutionizing the future of Deep-Ocean Sensing* – José Barros (JTF SMART Cables)

17h10 *Discussion*

17h20 *Challenges to monitor the deep sea biodiversity* – Ana Colaço (Univ. Açores)

17h30 *TwinDEEPS: building community and capacity for deep-ocean exploration and observation* - Joana Xavier (CIIMAR)

17h40 *TRIDENT: the future of deep-sea monitoring* – Eduardo Silva (INESC TEC)

17h50 *United they Stand: the Power and Beauty of Cooperative Marine Robotics* – António Pascoal (LARSyS)

18h00 *Discussion*

18h10 *Closing remarks:* Ricardo Serrão Santos (ACL e OKEANOS/ UAç); Maria Salomé Pais (ACL)