



# ADVANCED OCEAN SYNERGY TRAINING COURSE 2025

Our Ocean, Our Future, Our Responsibility

FURTHER INFORMATION CAN BE FOUND AT  
<https://oceantrainingcourse2025.esa.int>



Dear Colleague:

Thank you for agreeing to be part of the ESA Ocean Training Course 2025 (<https://oceantrainingcourse2025.esa.int/>) during the special-session 3-day voyage aboard the tall ship Statsraad Lehmkuhl from Mahon to Nice, 1-3rd June 2025. This is the 8<sup>th</sup> ESA Ocean Training Course of the series devoted to the next generation of Earth Observation (EO) ocean scientists. Attached to this mail is the shore-based course handbook as background information.

We look forward to welcoming you aboard!

As a leading actor in the field of Earth Observation and Ocean Science, the voyage from Mahon to Nice is designed to provide a unique opportunity, with time and space, to discuss Earth Observation in the context of the UN Ocean Conference (UNOC) and SDG14 “Life Below Water - Conserve and sustainably use the oceans, seas and marine resources for sustainable development”.

The ocean covers 74% of our planet surface and is difficult to sample properly because it is in continuous motion. Satellite measurements play an incredibly important role in this respect because they provide high quality, quasi-synoptic regular repeat coverage data of the global ocean every few days. Oceans, seas and coastal areas form an integrated and essential component of the Earth’s ecosystem and are critical to sustainable development. They contain 97% of the planet’s water. Oceans contribute to poverty eradication by creating sustainable livelihoods and a broad range of opportunities for work employment. Over three billion people depend on marine and coastal resources for their livelihoods. In addition, oceans are crucial for global food security and human health. They are also the primary regulator of the global climate, regional weather development, an important sink for greenhouse gases and they provide us with water and the oxygen we breathe. Finally, oceans host huge reservoirs of biodiversity. We depend on our Ocean.

As noted by Peter Thompson, United Nations Special Envoy for the Ocean:



*“There can be no healthy planet without a healthy ocean and the ocean’s health is currently measurably in decline. As the future generation of ocean scientists, it is upon your shoulders to advance ocean science to overcome the drastically incomplete knowledge we have of the ocean’s properties. Only through respect for the best of ocean science can we achieve SDG 14 goal of conserving and sustainably using the ocean’s resources.”*



We have prepared an itinerary for your participation which includes living aboard and sailing the ship while interacting with students, lecturers, the ships’ company and each other.



The overall theme of our discussions while aboard the Statsraad Lehmkuhl is "**Earth Observation Action for a Sustainable Ocean**". Over the course of our voyage from Mahon to Nice, the challenge is to identify recommendations for Space Agencies and ocean scientists that will help leverage the full weight of Earth Observation in support of the relevant UN Sustainable Development Goals linked to ocean affairs.

This document provides you with logistical, practical and itinerary information to help you prepare for the voyage.

## Joining the ship

You will receive tickets from the Statsraad Lehmkuhl via email requesting formal information from you necessary for normal embarkation operations and customs clearance etc.

The ship will be ready for you to embark at the Port of Mahon, Menorca on Tuesday 1<sup>st</sup> June at **11:00AM and no later than 12:00AM**. When you embark the ship, your passports will be required by the Sergent as you are signed on to the ship. We have limited time at the port and plan to leave shortly after 13:00 so please be ready. At this point we anticipate a berth close to the ferry terminal (see map below) – if this changes we will let you know by mail.

The ship will arrive in Nice France no later than 18:00 on 3<sup>rd</sup> June 2025.



## Program of events for the Voyage

During the voyage you will work side-by-side with the EOTC25 students (all Masters, PhD or PostDoc level) and lecture team providing a unique environment to discuss **Earth Observation Action for a Sustainable Ocean**.

To consolidate our discussions with the teams on board, the following meeting slots have been arranged in the Captains Room for an exchange of views and to formulate

recommendations for Space Agencies and Ocean Scientists that will help leverage the full weight of Earth Observation in support of the UN Sustainable Development Goals.

**Sunday 1<sup>st</sup> June 2025 18:00 – 19:45**

- Welcome (S. Cheli)
- Aim and objectives of the sessions (C. Donlon)
- Round table Initial points of view: Earth Observation in support of the UN Sustainable Development Goals

**Monday 2<sup>nd</sup> June 2025 18:00 – 19:45**

- Space4Ocean Alliance (S. Cherchali)
- Round table feedback on voyage so far
- Draft recommendations for Earth Observation in support of the UN Sustainable Development Goals

**Tuesday 3<sup>rd</sup> June 2025 12:00 – 14:00**

- Review and agree statement of recommendations for Earth Observation in support of the UN Sustainable Development Goals
- Wrap up feedback

**Wednesday 4<sup>th</sup> June 2025 10:00-16:00 (on ship deck stage area - Open to public)**

10:00-10:20: **Our Oceans from Space and the European Space Agency Ocean Training Course 2025** (S. Cheli, Director of Earth Observation, ESA)

10:20-10:40: **Why is it important to protect our oceans?** (K. Germain, Director of Earth Science, NASA)

10:40-11:00: TBC (H. Delgado-Rosa, Director DG.ENV (Biodiversity), European Commission)

*Break*

11:20-11:40: **Space for Ocean Alliance** (S. Cherchali, Head of Earth Observation program, CNES, France)

11:40-12:00: **Ocean Modelling: the integrator of ocean knowledge** (P. Bauhurel, Director General of Mercator Ocean International, France)

12:00-12:15: **ESAOTC25 Statement of recommendations for Earth Observation in support of the UN Sustainable Development Goals** (S. Cheli, Director of Earth Observation, ESA)

12:15-12:30: **Media questions and answers**

*Lunch break*

14:00-14:20: **Earth Action as our vehicle to address oceans in a holistic manner** (R. Floberghagen, Hd. Earth Observation Science Department, ESA)

- 14:20-14:40: **Ocean acidification and the threat it poses to biodiversity, ocean sustainability and coastal communities** (S. Widdecombe, Director Plymouth Marine Laboratory, UK)
- 14:40-15:00: **Earth and the unknown, what our ocean tell us about other worlds** (P. Bontempi, Dean, graduate School of Oceanography, University of Rhode Island, USA)
- 15:00-15:20: **Ocean observing disruptors and what that may mean for the Earth Observation of the future** (J. Siddorn, Chief Executive, National Oceanography Centre, UK)
- 15:20-15:40: **Harnessing Earth Observations and Machine Learning for Skilful Ocean Predictions** (T. Furvik, Director, NERSC, Norway)
- 15:40-16:00: **Satellites: our eyes in the sky in sea of observations** (L. Lorenzoni, Program Scientist for the Ocean Biology and Biogeochemistry Program (OBB), NASA)

#### **Thursday 5<sup>th</sup> June 2025 (on ship deck stage area - Open to public)**

- 11:00-12:00: The ESA Ocean Training Course 2025: View of the scientists on board the ship with Questions and answers
- 14:00-16:00: Visit from local school children to interact with Students and lecturers

## **Sea Watches**

Once we leave Mahon, we will start to sail the ship over to Nice. Everyone on board sails the ship without exception – unless they are unwell! You will be assigned to one of three “watches”. The sea watch system has a long tradition at sea and is the backbone of the operation of the ship.

Shortly after boarding, everyone is divided into three watch teams: red, white, and blue. This will be your core group for the voyage. Together, you will take part in four-hour sea watches twice a day. Altogether, you will be on watch for 8 hours per day. The three watch teams are led by the ship’s professional crew, who are always present on deck to ensure safety. While on watch, you receive training and participate in sail manoeuvres, helming the ship, scientific measurements, keeping lookout and serving as fire watch. The sea watches are arranged as follows:

- Red watch: 12 PM – 4 PM / 12 AM – 4 AM
- White watch: 4 AM – 8 AM / 4 PM – 8 PM
- Blue watch: 8 AM – 12 PM / 8 PM – 12 AM

About half an hour before each watch change, the oncoming watch is called to muster (woken up).

## **Meals**

All meals are included in the ticket: breakfast, lunch, and dinner. In addition, a simple bread meal is provided for the night watch team. Meals are served buffet-style on the

fore banjer room. The blue watch team sleeps here, so they take down their hammocks before going on duty.

### **Meal times**

7:20 AM – 8:30 AM Breakfast

11:20 AM – 12:30 PM Lunch

5:30 PM – 6:30 PM Dinner

In addition, there are two scheduled 15-minute breaks each day: one at 10 AM and one at 3 PM, known as ‘ti-kaffe’ and ‘tre-kaffe’. Along with coffee and tea, a small snack or treat is often served with the afternoon tre-kaffe.

### **Things to bring with you**

In terms of preparing for the voyage there are a few things you need to bring with you:

1. Your Passport.
2. Any medication you require.
3. Your insurance.
4. Sleeping accommodation is in ships hammock in a shared space. As we are in Mahon in summer, it should be quite warm and a light sleeping bag is needed. A small pillow is nice, and I also suggest you bring a foam camping mat to place in the bottom of the hammock for a bit of comfort.
5. There are common toilets and showers on board, and you will need to bring a towel and toiletries.
6. If you wish to go aloft in the ships rigging, this is possible but not mandatory. For this you will need stiff soled lace-up shoes – lace up so they don’t fall off and hit someone below! Walking boots are great. You will need to demonstrate a pull-up and hold that pull-up for at least 10 second to qualify as fit for climbing.
7. While the weather ought to be great in this region and season (sun cream, sunglasses, peaked hat, summer marine wear...), we are still at sea in the Mediterranean and you may need a rainproof coat (and trousers) – please bring them as we all keep watch on deck whatever the weather.
8. You will be pulling ropes as we manoeuvre the ship together (it takes “all hands” for some manoeuvres) and a pair of sailing type gloves can be helpful (though the regular crew don’t use them)

### **Further information**

There is more information in the attached sailcrew handbook available at

[https://oceantrainingcourse2025.esa.int/wp-content/uploads/2024/06/English\\_Handbook\\_S\\_Lehmkuhl\\_LQ.pdf](https://oceantrainingcourse2025.esa.int/wp-content/uploads/2024/06/English_Handbook_S_Lehmkuhl_LQ.pdf) . Please take a bit of time to read through the booklet before you arrive – it has some useful information.

I look forward to meeting you aboard the Statsraad Lehmkuhl on 1<sup>st</sup> June in Mahon and look forward to stimulating, productive discussions together.

Dr. Craig Donlon

(Hd. European Space Agency Future Mission System Architecture Office)

## List of Participants

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