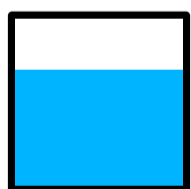




# OPEN DAY 2026



**National  
Oceanography  
Centre**

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For over 30 years, our Southampton dockside site has been a base for exploring the ocean and advancing marine science. Established to bring together oceanographic research, technology, vessels and education in one purpose-built location, the centre opened in April 1996 and has since become a hub for discovery, innovation and collaboration.

Today, it remains home to many brilliant minds, all dedicated to deepening our understanding of the ocean and its role in our world.

This guide invites you to explore that work for yourself. Use the maps to navigate the site and discover a range of interactive exhibits, experiments, talks and demonstrations, as well as opportunities to meet the people behind the science.

Each area offers something different to explore, and the timetable on the back will help you plan your visit around activities taking place at set times.

**Dive in, explore, and enjoy your visit**

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## Exploring the Depths

3

Come face-to-face with a real Remote Operated Vehicle (ROV) and discover how it helps us explore the deep sea without us ever leaving the surface. Watch live demonstrations of robotic arms, cameras and tools, and hear about the strange landscapes and creatures found in the dark depths below.

10 minute demonstrations taking place throughout the day

- 09:45
- 11:00
- 12:00
- 14:30
- 15:30

Please note, there is limited space available due to Health & Safety restrictions

## Artificial Intelligence for Plankton

3

Plankton may be tiny but identifying them is a big job! Uncover how we are utilising new AI tools to help, play an interactive classification game, discover how image recognition works and find out what it takes to train an algorithm to identify different plankton types.

Can you make the smartest AI?

Why is it important to classify plankton correctly for understanding the ocean?

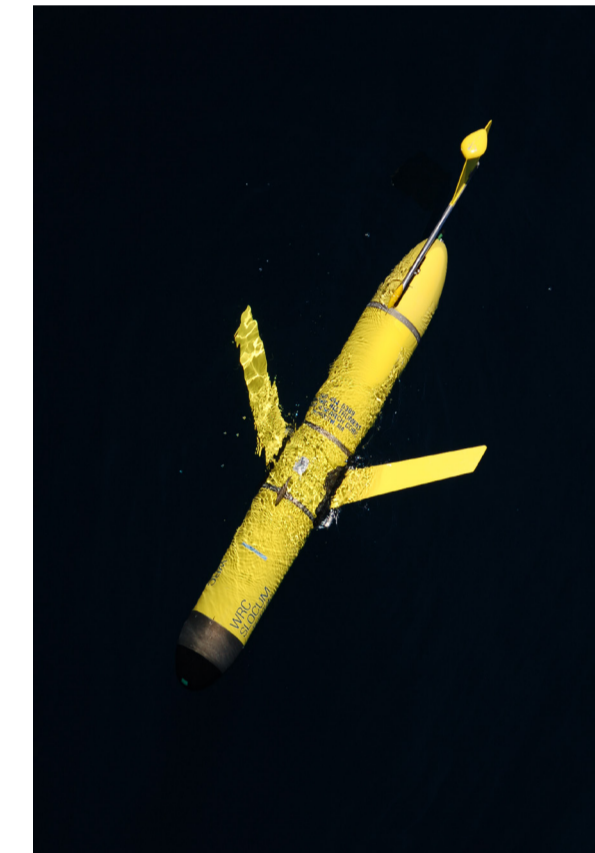
## Sensing the Ocean

2

Get hands-on with the clever sensors scientists use to take the ocean's vital signs - such as nutrients, salinity and other key properties. Examine giant sized 3D-printed plankton, learn how we are creating new instruments and see how smarter monitoring helps us to understand ocean health.

Which ocean measurement do you think matters most?

How do delicate sensors keep working in saltwater for months?



## Robots for Ocean Science

2

Explore an underwater glider up close and watch it in action in our testing tank - where we simulate deep sea conditions to ensure the gliders are ready for deployment. Chat with our engineers, who build and programme these ocean robots and discover the sensors they carry to measure temperature, oxygen and more.

How could a robot cross an ocean without a propeller?

What would you choose to measure if you could send a glider anywhere?

Please note, there is limited space available due to Health & Safety restrictions



## 100 Years of RRS Discovery

1

Celebrate a century of RRS Discovery with fascinating artefacts, photos and stories from our archive - then see how research ships today are helping to shape the next 100 years of ocean exploration. From pioneering expeditions to cutting-edge technologies, you'll get a behind-the-scenes look at how RRS Discovery has shaped our understanding of the ocean.

What do you think was the biggest breakthrough enabled by RRS Discovery?

## MISSION: Light Detectives

2

Become a Light Detective and uncover how beams of light can reveal the invisible chemicals in our oceans and seas. Try fun games and hands-on demos, look under the microscope at real sensor chips, and see how light can power new tools for ocean research and healthcare.

What chemical clues can light detect that our eyes can't find?

How might these new sensors help protect the ocean?

Presented by the University of Southampton's School of Ocean & Earth Science



## Explore Underwater with AI

3

Try your hand at underwater discovery using artificial intelligence. You'll see why ocean missions collect thousands of pictures and how artificial intelligence helps scientists sort, label and learn from them faster.

How does an AI 'learn' what a crab looks like?

What happens when it gets it wrong?

## Ocean Literacy & Survey

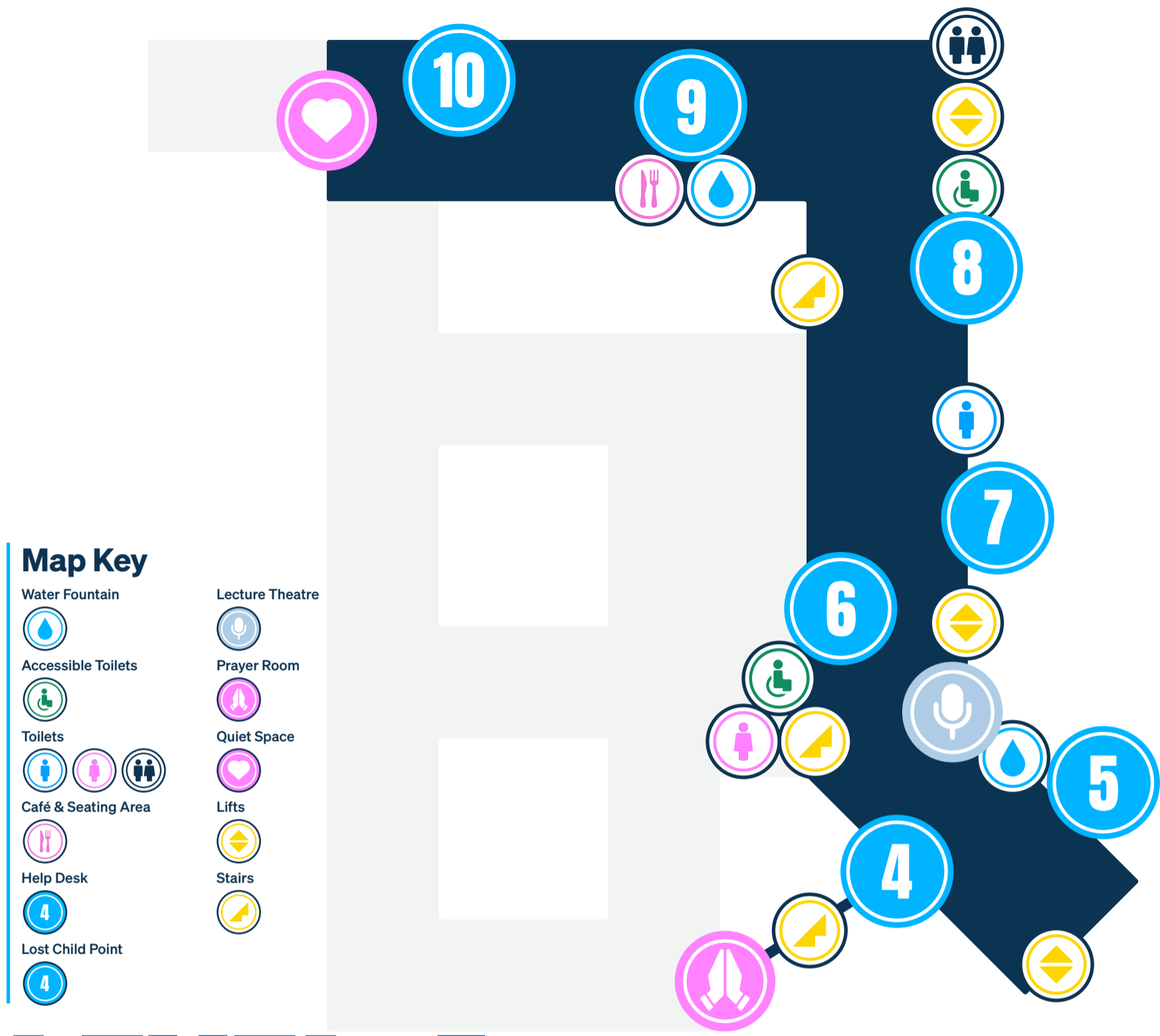
11

Before you leave, please say hello to us at the Ocean Literacy banner next to the revolving doors. Take a moment to reflect on everything you've seen, heard and experienced today - from discoveries beneath the waves to the people and technologies helping us understand the ocean.

What stood out most to you during your visit?

What new ideas, facts or questions are you taking away with you?

Has today changed the way you think about the ocean?



# LEVEL 4

**Atlantic Meridional Overturning Circulation** 4

Discover the Atlantic Meridional Overturning Circulation (AMOC) - a giant ocean conveyor belt that moves heat through the ocean and shapes our weather and climate. See real instruments used on moorings and sensors and learn how we observe these vast currents in the real ocean.



**Jellyfish: Natural History and Ecology** 4

Make your own jellyfish puppet and discover how these mesmerising animals move, feed and grow. Learn about their life cycles, weird and wonderful adaptations and why jellyfish are an important part of ocean ecosystems - even when they bloom!

*Why do jellyfish sometimes appear in huge numbers?*

*What do they tell us about changes in the ocean?*

*Could the AMOC change in our lifetime, and how do we measure something that spans an entire ocean?*

**Marine Data: Surface to Seafloor** 4

Explore marine data and see how information travels from the ocean surface to the seafloor, and then to our desks. Navigate the seafloor, solve puzzles and learn about the different types of data we work with.

*What information do we need to collect with data so it can be re-used in the future?*

*Why is mapping the ocean still such a huge challenge?*



**Nature-Based Ocean Solutions** 4

Discover nature-based ocean solutions and reveal the secret power of blue carbon - how saltmarshes, seagrasses and mangroves lock carbon away in muddy soils for centuries. View sediment cores, learn how habitats are restored, and explore how these coastal ecosystems support wildlife while helping fight climate change.

*How much carbon can a marsh store?*

*What happens when these habitats are damaged or restored?*



**Fire Up the Volcano!** 4

Fire up your curiosity with bubbly 'lava' experiments that show how gas can drive eruptions - from gentle flows to explosive blasts. Handle real volcanic rocks, use microscopes, and try playful demos that reveal why predicting eruptions is so challenging.

*What makes one eruption fizz and another explode?*

*How do scientists monitor volcanoes hidden under the ocean?*

Presented by the University of Southampton's School of Ocean & Earth Science

**Deep-Ocean Stewardship Initiative (DOSI)** 4

Dive into big questions about the deep ocean and how we look after it with the Deep Ocean Stewardship Initiative (DOSI). Explore displays and conversations about deep sea biodiversity, fishing, mining, pollution, climate change, and the policies that guide decisions in our largest ecosystem.

*Who should decide what happens in the deep ocean, and what rules would you put in place to protect it?*

Presented by the University of Southampton's School of Ocean & Earth Science

**Argo: Global Collaboration for Climate Understanding** 5

Meet Argo - a global fleet of thousands of robotic floats that dive, drift and surface to measure the ocean from top to bottom. Learn how Argo reveals where most of Earth's extra heat is stored, why international teamwork matters and how data from the middle of the ocean ends up on scientists' screens.

*How does a float know when to rise?*

*What surprises have Argo measurements revealed?*

**Weather in a Tank** 5

Learn how weather patterns develop through a spinning tank experiment - watch as rotating fluids reveal currents, fronts and mini cyclones right before your eyes. Discover how Earth's rotation shapes the ocean and atmosphere and why understanding these patterns helps improve forecasts and climate models.

*Can you spot a 'storm' forming in the tank, and what real-world weather feature does it mimic?*

Presented by the University of Southampton's School of Ocean & Earth Science

**Ocean Careers** 5

Explore ocean careers and play our Ocean Careers Cluedo to uncover a wide variety of pathways into ocean science, engineering and more. Chat with our colleagues about their routes into research, technology, data, communications and other ocean support roles.

*Which ocean professional could you be?*

## Dress Up Like an Oceanographer

5

Try on some of the kit used by the people who make ocean science happen - lab coats, hard hats and more. Learn about the many roles behind discoveries, from engineers and technicians to data scientists and researchers.

*Which job would you choose on a research expedition?*

*What skills do you think you'd need most?*



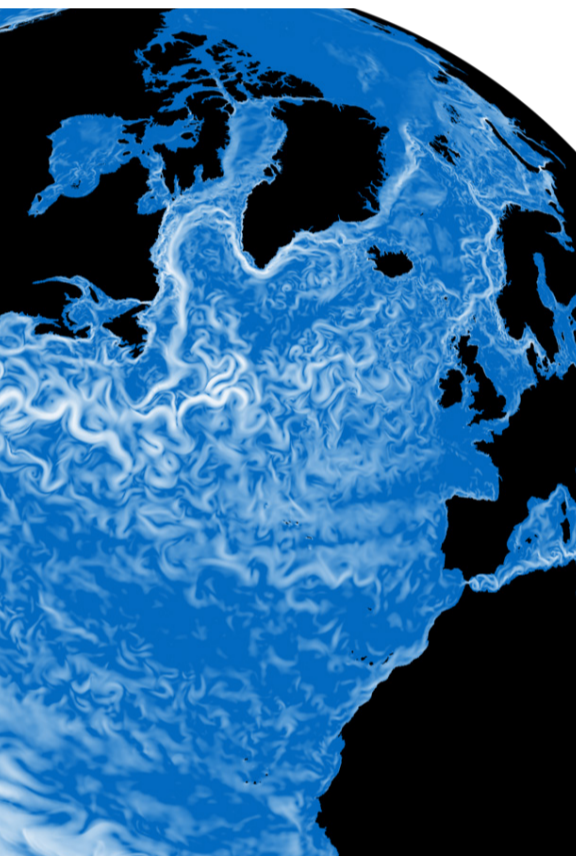
## Virtual Reality Research Ship Tour

5

Step aboard a research ship without leaving the building through our virtual reality tour where you can explore labs, decks and equipment. Experience life on an expedition, as well as the technology that help us understand the ocean.

*What do you think is the most surprising thing about living at sea?*

*What would you pack if you were going on a month-long voyage?*



## The Ocean's Crystal Ball

7

Gaze at the immersive PufferSphere and discover striking visuals from our best ocean models that reveal the ocean's role in the Earth system. Chat with our researchers about how models augment our observations to tell us about the past and present, and how they can help us explore what might happen next.

*What is the ocean doing now, how might it change?*

*How confident can we be in predicting the future?*

## Global Ocean Temperatures Over the Years

7

Go fishing for historic temperature readings in our mini ocean and build your own climate record - spot patterns, outliers and the occasional odd datapoint. Discover how scientists combine old ship logs and measurements to create the global temperature trends used in major climate reports.

*How do we know if an old measurement is reliable?*

*What can a single datapoint change in our understanding of climate?*

## Plastics: The Ocean's Unwanted Guests

8

Discover where plastic pollution comes from, what happens to it in the ocean, and how it could affect the ocean's health. Explore real samples under microscopes, try hands-on activities and chat with scientists who study plastic pollution. Investigate how we measure plastics, uncover their sources in the ocean, and explore simple actions that can help to prevent the pollution.

*Where do ocean plastics begin their journey and what changes could make a difference?*



## Tiny But Mighty

8

Dive into the microscopic world of plankton through interactive games, 3D models, and microscopes featuring real samples from Southampton waters. Discover the tiny yet powerful organisms that support marine food webs and ocean life. Learn how plankton play a vital role in regulating climate by capturing and transporting carbon to the deep sea, then challenge family and friends to see who can store the most.

*What do you think plankton look like?*

*What happens when different types of plankton live together?*



## Tides: From Gravity to Mechanical Computers

6

Explore the science of tides - from the pull of the Moon and Sun to the surprisingly complex patterns of water rise and fall around our coastline. Watch a mechanical tide predicting machine at work and try a virtual version on your phone to see predictions in action.

*Why are tides different in different places?*

*How were tides predicted before the era of modern computers?*

## How a Warming Ocean is Changing Life on Earth

7

Find out how a warming ocean is changing life on Earth - through sea level rise, shifting habitats and the ocean's role in storing heat and carbon. Explore the tools and teamwork behind ocean monitoring, including the UK AtlantiS programme, and see how scientists track change over time.

*Where does the extra heat in the climate system go?*

*How might ocean change affect the places we live?*

## Earth Beneath Oceans

8

A Seafloor Geology Discovery Mission: become an ocean-drilling explorer with games that let you hit a target, take a 'core' and decode what it reveals about ancient oceans. Learn why drilling beneath the seabed helps scientists understand climate change, earthquakes, volcanoes and the history of our planet.

*How deep do scientists drill under the ocean floor?*

*What clues can a single core sample reveal?*

Presented by the University of Southampton's School of Ocean & Earth Science



## Mud on the Move

8

Discover how mud, sand, and 'marine snow' - tiny particles drifting through the ocean - build up layers on the deep-sea floor over time. Watch our flume tank demonstration to see how water currents move sediment, create distinct layers and preserve a record of past environments. Learn how scientists read these layers, like pages in a history book, to uncover changes in our climate and ocean.

*What stories can a core of mud tell us about Earth's past?*

*How do currents control where sediment ends up?*

## School of Ocean & Earth Science

9

Find out more about studying our planet and its ocean at the University of Southampton's School of Ocean and Earth Science. Explore posters and hands-on items - from fossils to field gear - and chat to our undergraduate students about our courses and research.

*What would you most want to learn about the Earth or ocean?*

*What might a day in the life of a student here look like?*

Presented by the University of Southampton

## Socio-Oceanography

9

Be part of our research. We need your help to explore how people and the ocean shape each other. Share your thoughts as we turn the tide by asking you some questions on how you connect to the high seas. Through stories and activities, you'll see how human choices affect the high seas and how ocean change feeds back into society.

*How can science and communities work together for a healthier ocean?*

*How do you connect to the high seas?*

## Quiz Table & Autosub Model

10

Put your knowledge to the test with a fun set of ocean quiz questions about our changing seas. Pick up a sheet, compare answers with friends and family, and see what new facts you'll learn along the way - there may even be prizes!

*Which answer surprised you the most, and what ocean topic do you want to explore next?*

**Plus an opportunity to learn more about Autosub Long Range (ALR) - and get your photo taken together.**

*Where would you send an ALR on its next adventure?*



## Gladiators vs Volcanoes



Step into the arena for a high energy, interactive clash! Watch Earth's raw power go head to head with the strength, speed and skills of TV's Gladiators. Discover how volcanoes shape our planet, their hazards, and why they matter for the ocean. No actual Gladiators - just big science and big fun.

20 minute talk hosted by Dr Mike Clare and Dr Isobel Yeo followed by a 10 minute Q&A

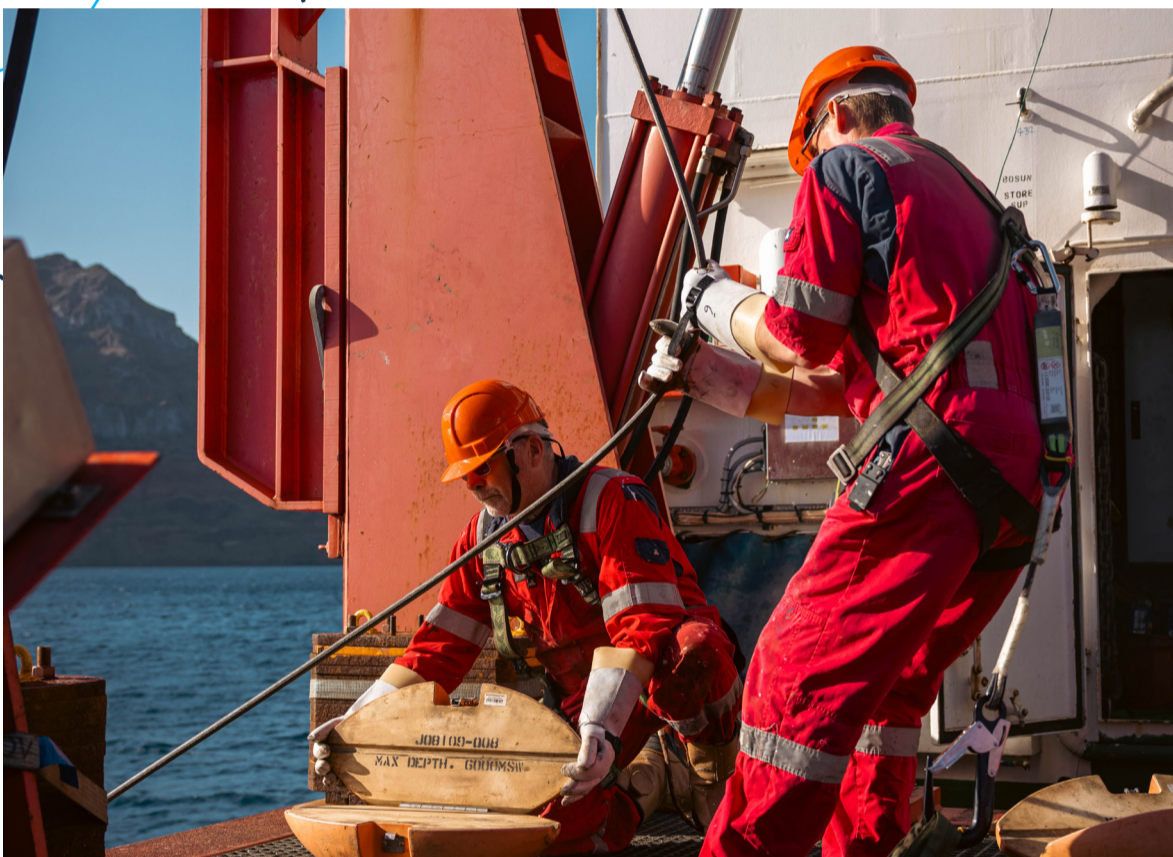
10:00

11:00

12:30

14:30

16:00



## Living on the Ocean: Science at Sea



Take a peek into life on a research ship and discover what scientists and crew do at sea - from collecting samples to experiments around the clock. Including a Q&A session with the team currently onboard the RRS *Discovery* off West Africa, you'll see how the ocean is studied and discover some of the biggest highlights and challenges of conducting science at sea.

30 minute talk including a live link up with the crew of RRS *Discovery*

11:45

15:15



## Exploring the Depths: ROV Live Demonstrations



Watch live demonstrations of robotic arms, cameras and tools, and hear about the strange landscapes and creatures found in the dark depths below.

10-minute demonstrations run throughout the day

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