

Around Africa Expedition

POGO-supported training for Early Career Ocean
Professionals (ECOPs)

Submitted in June 2025 by the POGO Secretariat

Table of Contents

1. About POGO and its Capacity Development programme	3
2. Around Africa Expedition & POGO	3
3. Selection of trainees	5
4. Travel and logistical arrangements	13
5. Organisation of training components	14
6. Overview of training modules facilitated by POGO	15
6.1 Carbonate chemistry & Ocean acidification module	15
6.2 Environmental DNA (eDNA) module	16
7. Feedback	17
7.1 Trainees' feedback	17
7.1.1 Sinothando Shibe (Science leg Moroni – Cape Town trainee)	18
7.1.2 Doreen Mushi (Science leg Moroni – Cape Town trainee)	20
7.1.3 Jaquelino Varela (Science leg Mindelo trainee)	21
7.1.4 Training leg Walvis Bay – Mindelo trainees' feedback	23
7.1.5 Training leg Mindelo – Las Palmas trainees' feedback	25
7.2 Supervisors' and instructors' feedback	28
7.2.1 Dr Lara Atkinson (Sinothando's supervisor)	28
7.2.2 Dr Lara Atkinson (Doreen's supervisor)	29
7.2.3 Dr Yara Rodrigues (Jaquelino's supervisor)	30
7.2.4) Dr Nathan Hubot (environmental DNA instructor)	31
7.2.5) Dr Carla Berghoff (Ocean Acidification and Carbon chemistry instructor)	31
7.2.6) Mr Ulrich Bilounga (Ocean Acidification and Carbon chemistry assistant)	32
8. Post-cruise activities	33
Annex A. OceanXplorer Cruise Report – leg Walvis Bay – Mindelo	37
Annex B. OceanXplorer Cruise Report – leg Mindelo – Las Palmas	87
Annex C. Application form	107

1. About POGO and its Capacity Development programme

The Partnership for Observation of the Global Ocean (POGO) is an international organisation comprising 55 member institutions from 31 countries. It is dedicated to promoting and advancing global ocean observation. By 2030, POGO aims to foster worldwide cooperation to establish a sustainable, state-of-the-art global ocean observing system that meets the needs of both science and society.

POGO's mission is to:

- Lead innovation and development of essential components of the ocean observing system;
- Identify and support the development of key skills, capabilities and capacities required to realise its vision;
- Collaborate with governments, foundations and industry to demonstrate the societal benefits of ocean observations and to secure the necessary long-term funding.

To achieve these goals, POGO structures its activities around three core pillars: Innovation in Ocean Observing, Capacity Development, and Outreach and Advocacy.

Capacity development has always been a high priority, with a particular focus on supporting early-career scientists from emerging and developing countries. The aim is to cultivate a critical mass of skilled researchers who will continue to monitor and study the ocean and coastal waters in these regions and, in turn, mentor future generations of ocean scientists. Over the past 25 years, POGO has established a comprehensive and impactful capacity development programme focused on training new generations of ocean science experts and leaders. This includes visits in advanced oceanographic laboratories, regional training initiatives, and hands-on experience aboard research vessels.

POGO's Capacity Development programme is widely recognised for its excellence, consistently receiving positive feedback from both trainees and host institutions. It has demonstrated significant impact at both individual and institutional levels and is often cited as a model of effective training and capacity development in the marine science community.

2. Around Africa Expedition & POGO

The Around Africa Expedition was a collaborative OceanQuest - OceanX 70-day mission aboard the advanced research and media vessel OceanXplorer. Launched in January 2025, the Around Africa Expedition was a major ocean research and capacity-sharing mission advancing deep-sea research,

oceanographic mapping, and scientific collaboration around Africa, from the Comoros to Gran Canaria. The expedition was comprised of five science-, training- and education-dedicated legs (Figure 1).

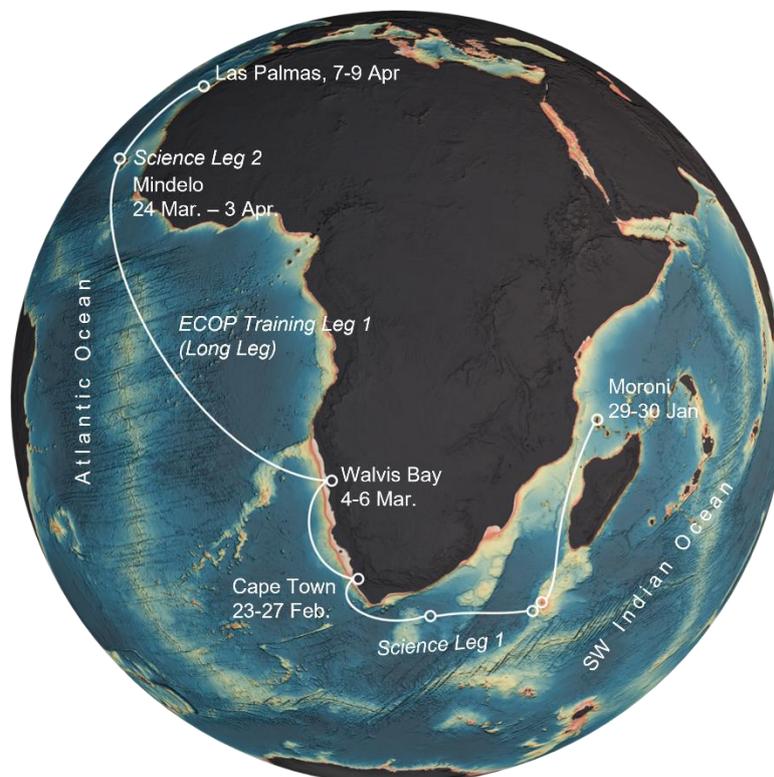


Figure 1 – Around Africa Expedition route comprised of science-dedicated legs, training-dedicated legs, and education-dedicated leg. Image gently provided by José Moutinho (OceanQuest).

POGO was approached by OceanQuest in September 2024 to collaborate with OceanX and OceanQuest by overseeing the organisation of shipboard training for Early Career Ocean Professionals (ECOPs) during the expedition.

The trainings were organised in two of the science-dedicated and two training-dedicated legs of the expedition:

Table 1 – Number of POGO trainees aboard Around Africa legs

Around Africa Leg	To - From	Dates	POGO Trainees
Science leg	Moroni (Comoros) - Cape Town (South Africa)	30 January 2025 to 23 February 2025	2
Training leg (also referred to as “Long leg”)	Walvis Bay (Namibia) – Mindelo (Cabo Verde)	6 March 2025 to 25 March 2025	13
Science leg	Mindelo (Cabo Verde) - Mindelo (Cabo Verde)	26 March 2025 to 31 March 2025	1
Training leg (also referred to as “Short leg”)	Mindelo (Cabo Verde) - Las Palmas (Spain)	3 April 2025 to 8 April 2025	12

In addition, POGO was also in charge of co-organising the environmental DNA and ocean acidification & carbonate chemistry training components onboard the training-dedicated “Long leg”, between Walvis Bay and Mindelo.

Further information on the training legs can be found in Cruise Reports prepared by OceanX (Annex A and B).

The present report summarises the activities of POGO on:

- Selection of trainees
- Travel and logistical arrangements
- Organisation of training components
- Overview of training modules facilitated by POGO
- Feedback from trainees and instructors/supervisors
- Post-cruise activities.

3) Selection of trainees

The selection of trainees was conducted using two distinct approaches. Due to the urgency of securing fellows for the science-dedicated Comoros to Cape Town leg —allowing adequate time for visa processing and travel arrangements—candidates were selected from a pre-existing shortlist derived from the database of individuals who had applied through POGO’s Open Call for shipboard training earlier in the year.

Based on the four primary cruise objectives (geological survey, biodiversity assessment, environmental DNA, and general oceanography), a shortlist of nine candidates (five women and four men from five countries) was compiled. The POGO Secretariat collaborated with the chief scientist of this leg, Dr Lara Atkinson from the South African Environmental Observation Network (SAEON), to assess the applications. Evaluation criteria included the quality of the application, the applicant’s CV, potential contribution to sustained capacity building in the candidate’s home country or institution, the strength of the recommendation letter, and overall relevance and eligibility.

The two highest-scoring candidates were contacted by email, offered the opportunity, and both accepted (Table 2).

Table 2 – POGO trainees onboard the Science leg Comoros-Cape Town



Ms Sinothando Shibe (South Africa)

Research assistant at South African National Biodiversity Institute and Nelson Mandela University.



Ms Doreen Mushi (Tanzania)

Marine biologist at Under the Wave.

For the remaining legs, with additional preparation time available, a call for applications was issued specifically for the two training-focused legs. The call was launched on 13 December 2024 with a submission deadline of 31 December 2024. The announcement was disseminated via email (<https://mailchi.mp/9b8033a52bee/xplorer>), posted on POGO's social media (e.g., [Facebook](#), [X](#), [Instagram](#), [BlueSky](#), and LinkedIn), and shared through partner organisations, including the [All Atlantic Ocean Research & Innovation Alliance](#). Both the email and the promotional poster (Figure 2) contained detailed information on the scope of the training, eligibility criteria, selection priorities, what the fellowship does and does not cover, and application instructions.

Applicants were required to complete an application form and upload a curriculum vitae and a recommendation letter. The form collected personal, professional, and academic details, in addition to a statement of motivation and information about prior shipboard and international experience (see Annex C).

OCEAN TRAINING PARTNERSHIP **pogo** Partnership for Observation of the Global Ocean **OCEANX**

POGO-OCEANX-OCEANQUEST FELLOWSHIP FOR SHIPBOARD TRAINING ON THE AROUND AFRICA MISSION

ABOUT THE TRAINING

OceanXplorer, one of the world’s most advanced research and exploration vessels, will host two dedicated training cruises in the first quarter of 2025. The voyages will run from Walvis Bay (Namibia) to Mindelo (Cabo Verde) and from Mindelo to Las Palmas (Spain), with approximate durations of 17 days and 5 days, respectively. Exact dates are anticipated for mid-March but are yet to be confirmed.

Selected participants will join one of these cruises to deepen their knowledge of ocean exploration through intensive training and immersive workshops, enhancing their contributions to ocean observation and advocacy.

The trainings may include:

- Hands-on sessions on general oceanography, underway measurements, bathymetry, and eDNA (microbiome-focused).
- Media training to enhance science communication skills.
- Engage in scientific projects during the cruise

The programme is open to early-career ocean professionals, technicians, postgraduate students (PhD/MSc), and post-doctoral researchers who are over 25 years old, nationals of, and actively engaged in, ocean-related work or studies in developing countries or countries with economies in transition (priority will be given to ECOPs from African countries).

Applicants must have a valid passport and be eligible to enter Namibia, Cabo Verde and Spain. Please confirm your visa requirements before applying.

WHAT IS OFFERED

- ▶ **What is covered**
 - Airfare between the trainee’s home country and the departure/arrival ports.
 - Berth accommodation and meals during the cruise.
 - Accommodation before joining and/or after leaving the ship (if required).
- ▶ **What is not covered**
 - Domestic travel within the trainee’s country.
 - Visa costs, personal insurance, or vaccines.
 - Salary.
- ▶ **More information and how to apply**
 Visit <https://mailchi.mp/9b8033a52bee/xplorer> or scan the QR code

APPLY BY 31 DECEMBER 2024

Figure 2 – Poster for the call for applications to the POGO-OceanX-OceanQuest fellowship for shipboard training on the Around Africa Mission.

A total of 152 applications were received. Of these, 23 were disqualified due to duplication, ineligibility (e.g. non-eligible country or under minimum age requirement), missing or incomplete documentation. Additional applications from the POGO database were included in the candidate pool, based on their relevance and alignment with the training objectives.

After screening for eligibility and completeness, 149 applications were considered valid. These represented candidates from 29 countries from Africa, Asia and Latin America, with the highest number of applications received from Nigeria, Brazil, and Ghana, respectively (Figure 3). The applicant pool was composed of 53% male and 47% female candidates, with ages ranging from 25 to 52 years. In terms of academic background, the majority held a Master’s degree (51.0%), followed by Bachelor’s (30.2%) and PhD (16.1%) qualifications (Figure 3).

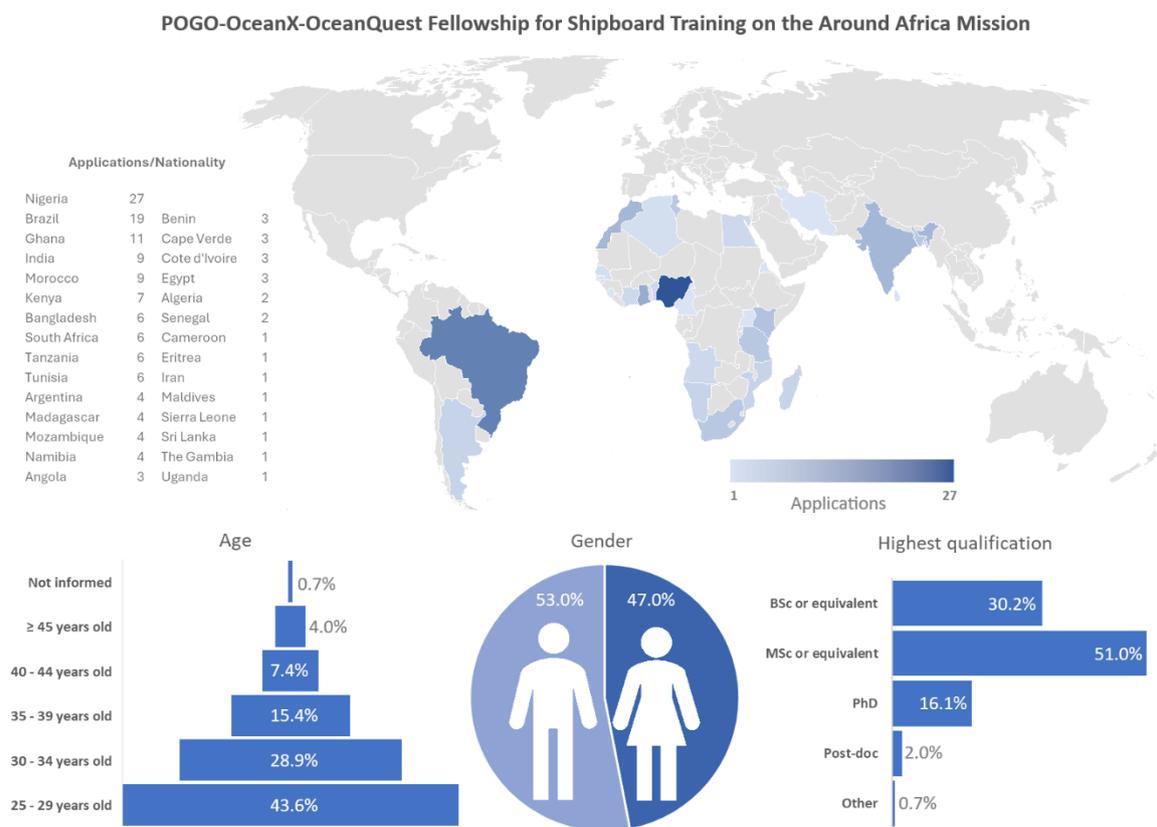


Figure 3 – Geographical distribution and demographics of valid candidates for the POGO-OceanX-OceanQuest fellowship for shipboard training on the Around Africa Mission.

Each application was reviewed by three evaluators: one from the POGO Secretariat, one from OceanX, and one from OceanQuest. Reviewers scored five criteria (see Table 3) on a scale from 0 to 3, using 0.5-point increments. Each reviewer’s scores were added to produce a total score per application. The final score for each candidate was then calculated as the average of the total scores given by the three reviewers.

Table 3 – Criteria utilised to review applications for the POGO-OceanX-OceanQuest fellowship for shipboard training on the Around Africa Mission

Scoring criteria	Evaluation guidelines
Quality of application & proposal	A high scoring candidate demonstrates a well-prepared application/proposal and/or possesses a background relevant to this cruise/training, along with good English language skills
Curriculum of applicant	A high scoring candidate has strong academic performance, has participated in relevant training and scientific events, and has publications according to their career stage (e.g., first author if a PhD student or postdoc). Their graduate/undergraduate field of study aligns with the objectives of the cruise.
Potential of contribution to sustained capacity building at home country and/or home institute	A high scoring candidate has demonstrated teaching experience and engagement in outreach and shows strong potential for disseminating the knowledge acquired from this training to others in their home country.
Recommendation letter	A high scoring recommendation letter is written by a referee who is familiar with the candidate (e.g., thesis supervisor) and provides a strong, recent recommendation, specifically prepared for this training. The document must be properly written in English, signed, dated, and on institutional letterhead.
Relevance and eligibility	A high scoring candidate's research interests align with the training programme/cruise topic and have limited international training experience. *Preference will be given to candidates from Africa at early stages of their careers (e.g., graduate students, recent postdoc) who have limited international experience (e.g., don't have a MSc or PhD from a developed country institution) and have not received a substantial POGO fellowship in the last 2 years (e.g., Centre of Excellence, Shipboard or POGO-SCOR fellows).

Average scores ranged from a minimum of 5.5 to a maximum of 14.0, with an overall mean of 11.0. A total of 34 African candidates falling within the top 73.5th percentile (lowest score 12.2) were selected to proceed to the next stage of the process. Based on their academic and professional backgrounds, as well as their alignment with the specific training objectives of each of the training-dedicated legs, candidates were further recommended as potential participants or waitlisters for one, other or any of the legs.

The shortlisted individuals were subsequently invited for 15-minute individual online interviews with representatives from the partner organisations and the POGO Secretariat. These interviews took place between 29 January (for candidates of the Long leg) and 12 February (for candidates of the Short leg). Candidates were asked about their previous experience aboard research vessels, their ability to adapt to unforeseen circumstances requiring flexibility and composure, their behaviour when working in teams, as well as their availability and expectations regarding the programme. For each leg, 13 candidates were offered a place, and a further three were placed on a waiting list. The final trainees selected for the Long and Short legs are listed in Tables 4 and 5, respectively.

In addition, one candidate, Mr Jaqueline Varela, was offered a place on the science leg around Mindelo Island (Table 6). Travel arrangements were initiated for all selected candidates, including those on the waiting list, to ensure readiness should an opportunity arise. This precaution proved essential for the Long leg, where two selected candidates withdrew early and were successfully replaced by waitlisted candidates. Unfortunately, Mr Soavelo Mahatsiaro, a trainee selected for the Short leg, was unable to join the expedition due to issues encountered at the departure airport.

Table 4– POGO trainees onboard the training-dedicated leg Walvis Bay-Mindelo (Long leg)

	<p>Mr Michel Ratsizafy (Madagascar) MSc student and technician at Institut Halieutique et des Sciences Marines.</p>		<p>Ms Omaina Mouiret (Morocco) PhD student at National Institute of Fisheries Research.</p>
	<p>Ms Sheila Rioba (Kenya) Fisheries Officer at Kenya Fisheries Service.</p>		<p>Ms Aghogho Kolawole-Daniels (Nigeria) Principal Research Officer at Nigerian Institute for Oceanography and Marine Research.</p>
	<p>Mr Frank Mirobo (Tanzania) Junior researcher at University of Dodoma.</p>		<p>Ms Nada Abdelkader (Tunisia) PhD student at Faculty of Sciences of Bizerte.</p>
	<p>Ms Rouane Brokensha (South Africa) PhD student at University of Cape Town.</p>		<p>Ms Ogechukwu Iwu (Nigeria) MSc student at University of Cape Coast.</p>



Ms Phyllis Amamoo (Ghana)
PhD student at University of
Ghana.



Ms Loide Amupala (Namibia)
Junior Marine Mammal
Observer.



Mr Dame Gueye (Senegal)
PhD student at University
Gaston Berger.



Ms Louiza Charway (Ghana)
Senior researcher at Fisheries
Commission.



**Ms Hasna Bouazzati
(Morocco)**
PhD student at Abdelmalek
Essaadi University Tetouan.

Table 5 – POGO trainees onboard the training-dedicated leg Mindelo-Las Palmas (Short leg)



**Ms Margaret Akwetey
(Ghana)**
Lecturer at University of
Cape Coast.



**Ms Nompofane Khauleza
(South Africa)**
Student at Cape Peninsula
University of Technology.



Ms Ilhem Hamdi (Tunisia)
Post-doc fellow at
University of Tunis El
Manar.



**Mr Julio Leonel Donfack
(Cameroon)**
MSc student at UNESCO Chair
of Mathematical Physics and
Applications.



Ms Amarachi Onyena (Nigeria)
Lecturer at Nigeria Maritime University Okerenkoko.



Ms Paula Sacheus (Namibia)
MSc student at University of Namibia.



Mr Benjamin Gawornu (Ghana)
PhD student at University of Cape Coast.



Ms Annette Megameno Amakali (Namibia)
Junior researcher at Ministry of Fisheries and Marine Resources.



Mr Mwesigwa Charles Mbeikya (Tanzania)
Junior researcher at The University of Dodoma.



Ms Chinomnso Onwubiko (Nigeria)
Researcher at University of Cape Coast.



Mr Kossou Yves Bertrand Beugre (Cote d'Ivoire)
Post-doc fellow at Centre Universitaire de Recherche et d'Application en Télédétection.



Ms Siwar Daboub (Tunisia)
PhD student at National Institute of Marine Sciences and Technologies.



Mr Soavelo François Mahatsiaro (Madagascar)
Technician at National Center of Oceanographic Research.

Table 6 – POGO trainee onboard the Science leg in Mindelo.



Mr Jaqueline Varela (Cabo Verde)
PhD student at Sphyrna Association/MARE/University of Lisbon.

4) Travel and logistical arrangements

The POGO Secretariat was responsible for issuing the award letters and coordinating all travel, airport transfers upon arrival and departure from the ship’s port, and accommodation for the 29 trainees (including Mr Mahatsiaro) from both training legs in addition to the 3 instructors participating in the Long Leg (see Section 5).

The award letter, developed in consultation with OceanX, included information on the next steps—such as submitting details via the acceptance form, attending an upcoming online meeting, and visa guidance—as well as the terms and conditions of the fellowship.

The POGO Secretariat liaised with a travel agency and each trainee individually to obtain quotations and identify the best flight options, making efforts to avoid routes through Europe in order to eliminate the need for Schengen visas where possible.

Accommodation was arranged in the cities where the trainees and instructors joined and disembarked the ship (Table 7), as well as for those who required overnight stays due to flight connections in other locations. The airport shuttle services (from airport to hotel and from hotel or ship to airport) were also organised by the POGO Secretariat.

Table 7 – Hotels used to accommodate the trainees.

Leg	Joining port Hotel (City, Country)	Leaving port Hotel (City, Country)
Science Leg Moroni – Cape Town (2 trainees)	Itsandra Beach Hotel & Resort (Moroni, Comoros)	Victoria & Alfred Hotel (Cape Town, South Africa)
Training Long Leg Walvis Bay – Mindelo (3 instructors + 13 trainees)	Protea Hotel Walvis Bay Pelican Bay (Walvis Bay, Namibia)	LIVVO Don Paco (Mindelo, Cabo Verde)
Science Leg Mindelo (1 trainee)	LIVVO Don Paco (Mindelo, Cabo Verde)	LIVVO Don Paco (Mindelo, Cabo Verde)
Training Short leg Mindelo – Las Palmas (13 trainees)	LIVVO Don Paco (Mindelo, Cabo Verde)	Hotel Puerto Canteras (Las Palmas, Gran Canarias)

5) Organisation of training components

The extended duration of the training-dedicated leg between Walvis Bay and Mindelo enabled the inclusion of additional, in-depth training modules on environmental DNA (eDNA) and ocean acidification & carbonate chemistry, complementing the already planned components on oceanography, ocean mapping and science communication & media.

A substantial effort was made to organise these new components. POGO played a key role by identifying and securing highly qualified instructors (Table 8), liaising with them regarding the structure of their sessions, and coordinating the logistics related to training requirements, including the provision of consumables and specialised equipment, with the involvement of many POGO partners (see Dr Berghoff comments in session 6.2.5).

The training on eDNA was delivered by Dr Nathan Hubot, a leading molecular biologist and research scientist at the National Oceanography Centre (UK). The ocean acidification and carbonate chemistry module was led by Dr Carla Berghoff, an expert in the field and researcher at the *Instituto Nacional de Investigación y Desarrollo Pesquero* (Argentina). To support this component and ensure hands-on learning, Mr Ulrich Bilouga, a PhD student at the Specialised Research Station for Marine Ecosystems (Cameroon), was also invited to join the expedition as a teaching assistant.

All three instructors embarked in Walvis Bay and played a crucial role throughout the leg, providing high-quality lectures, supervising practical work and projects, and engaging closely with the trainees to ensure a rich and immersive learning experience. Their involvement significantly enhanced the scientific and educational value of the training (see session 6 and Annex A).

Table 8 – Instructors of modules on environmental DNA (eDNA) and ocean acidification/carbonate chemistry aboard the training-dedicated leg Walvis Bay – Mindelo.



Dr Nathan Hubot (United Kingdom)
Research scientist at National Oceanography Centre.



Dr Carla Berghoff (Argentina)

Researcher at Instituto Nacional de Investigación y Desarrollo Pesquero



Mr Ulrich Bilouga (Cameroon)

PhD student at the Specialised Research Station for Marine Ecosystems

6) Overview of training modules facilitated by POGO

The programming was a mix of lectures, seminars, workshops, shadowing, and independent project time. Participants built their skills in carbonate chemistry, oceanography, phytoplankton community classification, eDNA, acoustic mapping, ship operations, on-ship technology, storytelling and camera work through a variety of courses, seminars, and hands-on workshops with experts. During this transit period, OceanX was sampling for eDNA, mapping the seafloor, CTD sampling, and collecting data for the NASA PACE satellite, with team members teaching students details about their use during different operations. Guest faculty led intensive training in carbonate chemistry, eDNA, and Media/XR. Trainees then conducted their own research projects and presented them at the end of the transit.

6.1) Carbonate chemistry & Ocean acidification module

During the "Full Group General Curriculum" from 7 to 10 March, trainees were introduced to essential sampling techniques and equipment for oceanographic data collection and carbonate system analysis. They received a comprehensive overview focused on sample collection, data processing, and analysis. On 7 March, Dr Berghoff conducted a workshop on Data Analysis, setting the stage for deeper discussions. On 9 March, she led a lecture on Ocean Acidification (OA). This lecture provided insights into carbonate system chemistry in the ocean, addressing key questions about OA, its impacts, and the importance of measuring the carbonate system. Following this, she led a practical workshop on OA, co-facilitated with Mr Bilounga. This workshop focused on measuring the carbonate system and included practical demonstrations on sampling and instrument analysis techniques.

From 11 to 14 March, trainees L. Amupala, L. Charway, D. Gueye, A. Alsaggaf, and H. Bouazzati participated in a Small Group Focused Training, which included seminars and hands-on workshops. During this period, they collaborated to collect samples at CTD stations and analyse data from the carbonate system. The trainees gained practical experience with instruments for measuring total alkalinity and dissolved inorganic carbon, while also comparing equipment for discrete sampling and continuous measurements, discussing the associated advantages and challenges. The training covered critical topics such as data management, quality assurance and control (QA/QC) procedures, and the use of CO2SYS and Ocean Data View (ODV) software for estimating the carbonate system and visualise oceanographic data, respectively. Another key aspect of the training was fostering a sense of community. Jan Newton, Chair of GOA-ON, delivered an online lecture emphasizing the importance of international research networks like GOA-ON, OARS, and ICONEC, as well as online platforms for data sharing, particularly the GOA-ON data portal. Discussions also highlighted the significance of contributing to the SDG 14.3.1 indicator and the role of international data repositories such as GLODAP and SOCAT.

From 15 to 23 March, three trainees (L. Amupala, L. Charway and D. Gueye) applied what they had learned to develop their own research projects.

6.2) Environmental DNA (eDNA) module

On 8 March, Dr Hubot provided a general lecture to all the trainees on eDNA covering the different sampling methods, sequencing approaches and applications. During the afternoon of the same day, he provided a workshop in the dryLab1 which included 4 stations 1) sample collection by filtration, 2) DNA extraction and quality check, 3) PCR amplification, 4) DNA sequencing and bioinformatics. For each station the trainees (in groups of 3) were provided a protocol to follow including questions to test their understanding. Each group went to each station.

During the small group focused training (4 days), the trainees went through the same methodology as the afternoon workshop but in this case each station consisted in a full day of practice. Briefly, the trainees collected eDNA samples from the CTD casts consisting of 2L of seawater filtered onto Whatman 0.2 um mixed cellulose ester filters (diameter: 47mm) using Cytiva Swin-Lok filter holders connected to a 4-head peristaltic pump. The DNA from one CTD cast was extracted using the Macherey-Nagel Nucleospin eDNA water extraction kit and the 16S rRNA gene was amplified by PCR. The trainees pulled the native DNA and 16S amplicons together and prepared the libraries using the Oxford Nanopore Ligation kit. The DNA was sequenced using a Flongle flowcell on the GridION

instrument. Reads were then mapped to a 16S reference database using Minimap2 and resulting data was visualised using Megan6.

During the project days, dr Hubot supervised mainly 3 projects:

Eukaryote project: Phyllis Amamoo, Omaima Mouiret and Aghogho Kolawole-Daniels

A total of 16 eDNA metabarcoding samples have been produced by PCR from the water collected by the CTD casts across the whole water column. Briefly, the samples consisted of 2L of seawater filtered onto Whatman 0.2 um mixed cellulose ester filters (diameter: 47mm) using Cytiva Swin-Lok filter holders connected to the peristaltic pump. DNA was extracted using the Macherey-Nagel Nucleospin eDNA water extraction kit and PCRs were performed using the COI and 18S metabarcoding primers. Subsequent libraries were prepared using the Native Barcoding V14-24 kit from Oxford Nanopore and sequenced on one PromethION R10.4 M flow cell.

Prokaryote project: Ahmed Alsaggaf

DNA extracted during the small group training was used to target the prokaryotic community present in the OMZ in the Northern Benguela Upwelling System. DNA was extracted using the Macherey-Nagel Nucleospin eDNA water extraction kit and 3 samples from the OMZ were pulled together in PCRs were performed using 16S metabarcoding primers. Subsequent libraries were prepared using the Ligation kit from Oxford Nanopore and sequenced on one GridION R10.4 M flow cell.

Zooplankton project: Rouane Brokensha

This study aimed to investigate how zooplankton-associated bacterial communities differ from surrounding bacterioplankton across oceanic ridge systems in the western Atlantic. Zooplankton and water column samples were collected using vertical bongo nets and a CTD rosette at multiple depths (surface, DCM, and 200 meters), with DNA extractions and PCR preparations carried out onboard. Further analyses will be conducted on land using Oxford Nanopore-based whole-genome metagenomic sequencing and 16S rRNA gene metabarcoding to characterize microbial diversity, functional potential, and community interactions.

7) Feedback

7.1) Trainees' feedback

Trainee feedback was collected using two different approaches. Those who participated in the science-dedicated legs were asked to submit a more detailed report, including a description of their

activities and general reflections on their experience. For the training-dedicated legs, trainees were invited to complete a survey comprising 17 questions, including multiple-choice, ranking, and open-ended formats. This allowed for both quantitative and qualitative assessment of their overall satisfaction with the training, as well as constructive criticism and suggestions for improvement.

7.1.1) Sinothando Shibe (Science leg Moroni – Cape Town trainee)

Please provide a brief description of activities during the training period.

During my time aboard the OceanXplorer, I was actively involved in a wide range of scientific data collection and processing activities. I assisted with eDNA pre-sampling preparations under the guidance of Jody Oliver, including the sterilization of all materials, and subsequently collected water samples from the CTD, ensuring proper storage in the cold room to preserve DNA integrity. I contributed to the filtration of 280 liters of seawater collected from Walters Shoal and during transit. I was responsible for processing metadata for all animal samples collected by the ROV and submersible, ensuring accurate labelling, and the correct association between samples and their corresponding metadata, including associated fauna. I had the opportunity to serve as both ROV lead and scribe on two occasions, during which I participated in the identification and collection of two sea pen specimens, now barcoded and prepared for scanning electron microscopy. Additionally, I observed multibeam seafloor mapping operations and the deployment of CTD, XBT, and NASA probes. I also attended three presentations delivered by the visiting science team and participated in a Roboflow familiarization session to support the development of an AI model for invertebrate identification, contributing by annotating a series of images for model training. Furthermore, I assisted in facilitating a live-streaming outreach event in collaboration with SAEON and OceanX, during which I provided high school students with a virtual tour of the OceanXplorer and the science and technical team shared insights into ROV operations. Lastly, I also had the rare opportunity to participate in an eight-hour submersible dive to a depth of 500 meters, gaining first-hand experience in deep-sea exploration.

What applications of the training received do you envision at your parent institution?

In my current role, I am part of a team responsible for monitoring Marine Protected Areas using a variety of tools and methodologies. Recently, there has been increasing interest in

incorporating eDNA as a complementary monitoring technique. The hands-on experience gained through the fellowship program will directly contribute to our data collection efforts.

Managing metadata for over 200 specimens has significantly strengthened my data management skills which directly supports attention to detail, quality control, consistency, and standardization across all aspects of my work. While being a ROV lead is a context specific skill, the experience taught me valuable lessons in understanding your objectives, task prioritization, adaptability, and the value of clear and concise communication, all of which are broadly applicable to all research contexts.

Please provide your comments on the Fellowship Programme.

Participating in this Fellowship Program strengthened my understanding of the various disciplines of ocean research and exploration. As part of the science team, I had the unique opportunity to work alongside experienced researchers, marine technicians and Early Career Professionals in an environment that was highly collaborative and interdisciplinary.

Through this program, I received my very first international deep-sea research expedition experience that has not only contributed to my technical skills in sample collection, equipment handling, and data management, but has also provided valuable insight into the logistical and scientific challenges of conducting research in remote marine environments.

Such programs highlight the importance of regional and international collaboration in advancing marine research and conservation. The overall experience reinforced my commitment to contributing meaningfully to research and the conservation of our fragile ecosystems.



Figure 4 – Sintothando (left) with Dr Lara Atkinson and pilot flying the South African flag in the research submersible, Neptune, minutes before their 8 hour sub dive at Walters Shoal Seamount; and (right) during a fire drill familiarization session (images credits: OceanX).

7.1.2) Doreen Mushi (Science leg Moroni – Cape Town trainee)

Please provide a brief description of activities during the training period.

During the fellowship aboard the OceanXplorer, I participated in an intensive multidisciplinary program that exposed me to deep-sea science, including acoustic seafloor mapping, remotely operated vehicle (ROV) operations, and biological sampling. I was involved in multibeam sonar data collection and backscatter interpretation to explore seafloor morphology and habitat types. Additionally, I gained hands-on experience with CTD deployments and learned how to log environmental parameters at different ocean depths. I also contributed to sample collection for genetic and biodiversity analysis and engaged in science communication activities documenting our findings. Being part of a diverse team of experts allowed me to build collaborative skills and gain mentorship from world-class researchers in oceanography, marine biology, and technology.

What applications of the training received do you envision at your parent institution?

I plan to integrate the acoustic mapping techniques and environmental data analysis skills I learned into my current research on pelagic fish distribution in the Zanzibar Channel. The exposure to real-time data collection and mapping will enhance my ability to use tools like depth loggers and digital catch monitoring systems in small-scale fisheries research. Additionally, I will share this knowledge with students and colleagues at my institution, strengthening our capacity in oceanographic research and supporting marine spatial planning initiatives in Tanzania.

Please provide your comments on the Fellowship Programme.

The POGO-OceanX-OceanQuest Fellowship was a transformative experience that bridged my academic background with practical, high-tech marine science. It empowered me as a young African researcher to engage with cutting-edge exploration tools and inspired my passion for seafloor mapping and deep-sea science. The mentorship, inclusivity, and technical depth of the programme have left a lasting impact on my career goals and capacity as an early-career ocean professional. I highly recommend this fellowship for aspiring scientists across the Global South.



Figure 5 – The OceanXplorer crew during the Moroni – Cape Town Science leg (image credit: OceanX).

7.1.3) Jaquelino Varela (Science leg Mindelo trainee)

Please provide a brief description of activities during the training period.

Between 27 March and 1 April 2025, five aerial survey sessions, each lasting approximately 90 minutes, were conducted to monitor marine megafauna in the region encompassing the Nola Seamount and surrounding waters, located northwest of Santo Antão Island, Cabo Verde. Marine megafaunas were surveyed aboard an Airbus H125 helicopter operated by an experienced pilot, and a scientific team composed of two observers and one photographer. The observer most extensive experience in identifying Cabo Verde's marine megafauna (cetaceans, elasmobranchs and sea turtles) was positioned in the front seat, alongside the pilot to maximise visibility and facilitate real time communication during surveys. A parallel transect of 7 to 10 sections, 15 nautical miles long and spaced 1.5 nautical miles apart, was covered at an average speed of 80 knots and an average altitude of 500 feet. Upon detection of marine fauna, the observer could request the pilot to descend and perform circular manoeuvres around the sighting location, when necessary, to enhance visual conditions, improve species identification, and ensure accurate counts. At the same time, the main observer reports the sighting data to the second observer, such as coordinates, species, number of individuals,

behaviour (e.g. swimming, resting, hunting, breaching) and time of sighting. For recording purposes, the species were divided into small (e.g. dolphins) and large cetaceans (e.g. humpback whales), sharks and rays. It was also recorded the fishing vessels sighted on the transect as well as unidentified non-living objects and their respective colours. Sightings made between the ship and the transect start point and between transects were considered opportunistic and recorded. The start and end time of each transect was recorded. Environmental variables known to affect the sighting, behaviour and abundance (e.g. temperature, cloud, wave, swell) of marine megafauna were added to the spreadsheet for each day of operation.

What applications of the training received do you envision at your parent institution?

I will share the experience, and all the knowledge gained with the members of my team. I will also incorporate the knowledge and experience into my next teaching activities to inspire children and young people to become ocean advocates. This opportunity has captured my attention to further explore the possibility of monitoring Cabo Verde's rich marine megafauna through aerial surveys, which can be done with more accessible methods such as drones.

Please provide your comments on the Fellowship Programme.

POGO-OceanX-OceanQuest Fellowship provided me with a unique opportunity to be on board one of the world's most advanced research and media vessels and to explore one of my country's most important and unknown marine habitats. The programme provided all the conditions, good communication and support that ensured my successful participation in the expedition. I would like to express my deepest gratitude to POGO and especially to the staff who were in contact with me during this process.



Figure 6 – Jaquelino (left) in the operating room watching an ROV descend; and (right) ready to board the Airbus H125 helicopter for another aerial survey of the Nola seamount megafauna (images credits: OceanX).

7.1.4) Training leg Walvis Bay – Mindelo trainees’ feedback

All 13 trainees who participated in the Walvis Bay to Mindelo leg responded to the post-training feedback survey. The overall response indicates a high level of satisfaction with both the training content and its delivery, with 92% of respondents reported being "very satisfied" with the overall training (Figure 7). When asked if the training covered the expected topics, 69% strongly agreed, 23% agreed and one participant (8%) selected "disagree"; however, their written response reflected a positive surprise at the inclusion of creative and novel aspects of science communication. Although unexpected, they described this component as *refreshing* and valuable, indicating the feedback was not negative but rather highlighted the diversity of the training content. All participants strongly agreed (77%) or agreed (23%) that instructors provided effective guidance and feedback (Figure 7).

In terms of pre-training communication and support, most participants strongly agreed (77%) or agreed (23%) that pre-training communication was adequate, and one participant (8%) responded "neutral" (Figure 7). The "neutral" respondent suggested that multiple communication channels caused some confusion regarding where to direct specific queries.

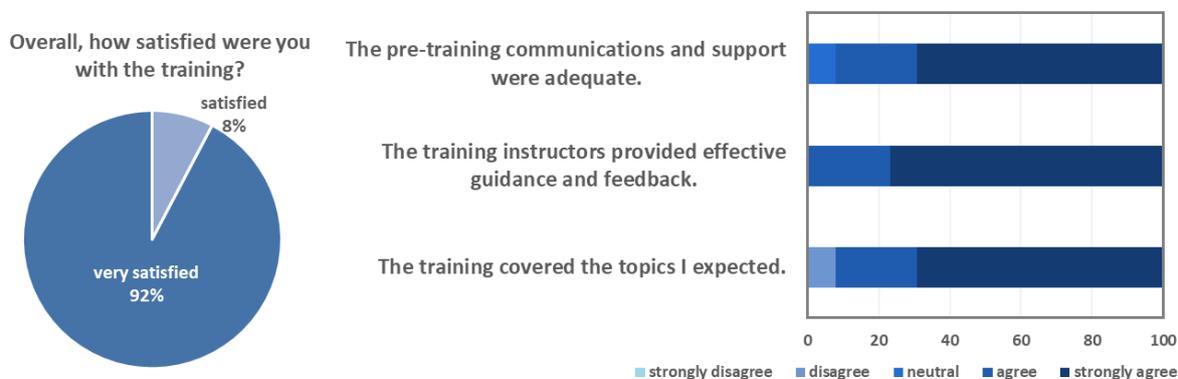


Figure 7 - Quantitative feedback from the 13 trainees onboard the Walvis Bay – Mindelo leg.

Overall, the participants praised the training for combining theoretical and practical components. Specific appreciation was given to the variety of scientific topics, the inclusion of science communication, and the quality of instructor support. Participants emphasised the value of interdisciplinary learning, peer exchange, and support from the organisers, including logistical assistance.

In regard to the pre-cruise workshop, all participants reported enjoying it, highlighting it as a valuable and engaging component of the training. Participants particularly appreciated the opportunity to connect with fellow trainees, the clear overview of the cruise’s scientific goals, and the diverse,

interdisciplinary nature of the sessions. The PechaKucha presentations and informal team-building activities were cited as highlights, presenting a supportive and interactive environment. Trainees also praised the workshop for helping them feel more prepared and confident ahead of the cruise. One suggestion for improvement was allowing more time for Q&A to deepen discussions.

When asked about the main benefits gained from the training experience, answers included scientific, technical, and professional development aspects. Trainees mentioned gaining hands-on experience in advanced oceanographic research techniques, including eDNA sampling, DNA extraction and sequencing, nutrient analysis, CTD profiling, ocean acidification monitoring, and the use of tools like ROVs, autonomous sensors, and data visualisation software. Many developed or deepened skills in science communication, storytelling, and public engagement, learning to visually communicate complex marine science topics to broader audiences. Frequently mentioned as well was the collaborative environment, which fostered valuable professional connections.

The trainees were asked how they planned to apply the knowledge and skills gained at their home country and institution. Besides the incorporation of new learned techniques on their research, they are committed to improving public and academic engagement. References were made to the use of storytelling, filmmaking, XR technology, and media training to raise ocean literacy, particularly through workshops, seminars, university campaigns, and community events. Several mentioned plans to integrate communication training into their universities curricula, develop outreach materials in multiple idioms, and promote participatory ocean literacy campaigns targeting youth, women, and coastal communities.

Suggestions for improvement included *“more frequent and expanded trainings to include a wider range of participants from diverse backgrounds and regions (...) to foster broader, more inclusive global scientific community”*; *“include more biodiversity assessment technologies that are based on fisheries, and also have open water courses for deep-sea research in ecology”*; *“include dedicated time for feedback sessions or mentoring one-on-one with senior scientists”*; *“not put too much spicing on food and use of spices that are used internationally and not local ones as some affect other people that are not used to them”*; *“provide more time for participants to work on independent or collaborative projects as additional time dedicated to real-world research tasks could further enhance the learning experience”*, *“have more structured follow-up opportunities after the training, such as online seminars or group discussions to allow participants to continue learning from each other and share the progress they’ve made since the training, fostering a longer-term sense of community and collaboration”*; *“increase the time for practical sessions and provide more detailed follow-up materials after the*

training to help trainees continue learning once back home”; and “more hands-on experience with standard operational procedures aboard research vessels, such as CTD deployment and sampling”. One participant reported they “felt overwhelmed by the number of talks, workshops and activities, as all of the sessions were incredible, and while I wanted to attend them all, it wasn’t always possible, I often felt I was missing out on valuable opportunities.”



Figure 7 - Trainees onboard the Walvis Bay – Mindelo leg (images credits: OceanX).

7.1.5) Training leg Mindelo-Las Palmas trainees’ feedback

All 12 trainees who participated in the Mindelo to Las Palmas leg responded to the post-training feedback survey. Similarly to the previous training, the response was highly positive, with 100% of respondents reported being "very satisfied" (92%) or “satisfied” (8%) with the overall training (Figure 8). When asked if the training covered the topics expected, 64% strongly agreed and 45% agreed. Participants strongly agreed (91%) or agreed (18%) that instructors provided effective guidance and feedback, praising their clarity, expertise and accessibility, and that pre-training communication was adequate (Figure 8). One trainee referred to that one-on-one communication with coordinators in regard to travel arrangements reduced significantly their anxiety level.

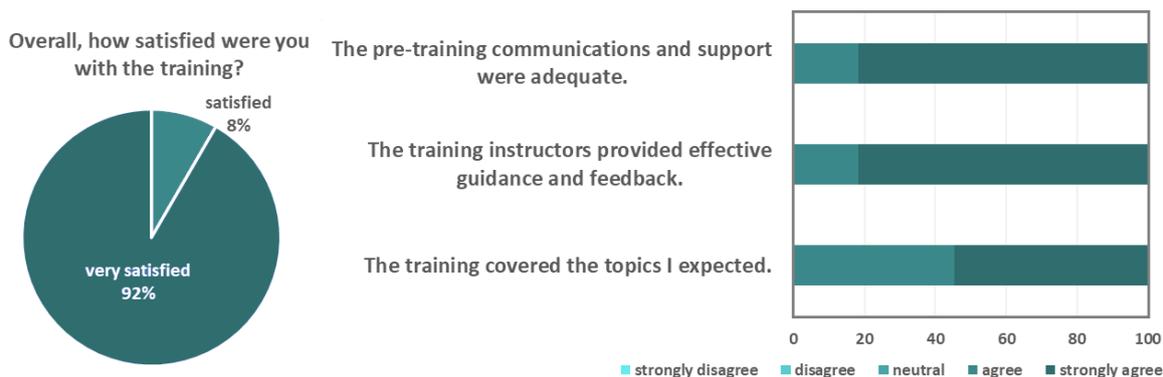


Figure 8 - Quantitative feedback from the 12 trainees onboard the Mindelo – Las Palmas leg.

In regard to the pre-cruise workshop, participants overwhelmingly reported a highly enjoyable and enriching experience. They appreciated the opportunity to connect with fellow ECOPs and experts, the engaging and interactive sessions, and the diverse range of topics—from seamount science to storytelling and regional research methods. Highlights included icebreaker games, tours, and presentations that fostered team bonding and anticipation for the cruise. The workshop setting and facilities were also praised. Some participants noted that additional time for practical sessions, group discussions, and bioinformatics training would have enhanced the programme further.

Participants found several aspects of the training highly valuable, with hands-on experience using advanced oceanographic tools—such as CTDs, submersibles, multibeam sonar, and eDNA sampling—consistently highlighted as a key strength. Science communication and storytelling training were also widely appreciated, equipping trainees with skills to engage diverse audiences and enhance ocean literacy. Additionally, sessions on ocean mapping, biodiversity monitoring, and data analysis were praised for their practical relevance. Informal elements like daily coffee chats and mentorship opportunities enriched the experience by fostering networking, reflection, and meaningful exchanges beyond the formal curriculum.

As with the first cohort, these trainees also have plans to implement the newly acquired knowledge and skills back home, in diverse and impactful ways. Many aim to integrate techniques such as eDNA analysis, sediment coring, and ocean mapping into their teaching, research, and fieldwork. Several plan to lead student workshops, incorporate new content into university curricula, and share methodologies with peers. Science communication emerged as a key area of application, with participants intending to use storytelling and outreach to engage schools, communities, and policymakers. Others expressed plans to develop collaborative research proposals, enhance public awareness campaigns, and contribute to capacity building and marine conservation.

Many participants felt that the short duration of the training was limited, not allowing experiences with the CTD, ROV or submarines and working with real marine samples during the eDNA workshop. The short duration was also mentioned as a limitation as affected those who had difficulty to acclimatize to the sea conditions and suffered from seasickness, losing important training content. One participant reported that the requirement of having to choose between topics for small group sessions was *“quite confusing for many of us, as we were eager to participate in all of them”*.

Suggestions for improvements included *“incorporate more focused sessions on data analysis and bioinformatics, crucial for interpreting results from tools like eDNA, and providing more opportunities for long-term project development to help participants translate their learning into actionable research”*; *“given a day or two to [future participants] acclimatize to the sea conditions, especially sea sickness”*; *“include extended hands-on sessions with all data collection instruments (CTD, ADCP), and language support for non-English speakers to ensure full inclusivity, and more time for group projects and final presentations to enhance learning outcomes”*; *“allocate more time for participants to fully develop and implement their individual research projects”*; *“more structured mentorship sessions onboard to enhance learning outcomes”*; and *“allocate more time for in-depth practical sessions”*.



Figure 9 - Trainees onboard the Mindelo – Las Palmas leg (image credit: OceanX).

7.2) Supervisors' and instructors' feedback

Supervisors of the trainees onboard the science-dedicated legs provided reflections specific to each of the trainees they supervised. Instructors on the training-dedicated leg between Walvis Bay and Mindelo provided general comments on the training experience and suggestions for improvement for future opportunities.

7.2.1) Dr Lara Atkinson (Science leg Moroni – Cape Town chief scientist and Sinothando's supervisor)

Please provide your comments on the performance of the trainee.

Ms Sinothando Shibe was an invaluable asset to our team during the Science Leg 1 of the OX-OQ Around Africa Expedition (30 Jan - 23 Feb 2025). Sinothando participated fully and with great enthusiasm, commitment and focus on all possible aspects during the expedition. Sinothando was always willing and ready to join in any sampling events and ensured that she gained experience in all science components possible during the expedition. Even when faced with challenges (like her luggage not arriving and needing to sail without any luggage) Sinothando remained positive and focussed on the opportunity of learning and gaining experience. She was selected to assist in presenting the live streaming event and included in many media and outreach events related to the expedition. Sinothando also offered assistance to every team member and was frequently present in the lab, helping out late in the evening. Her attention to detail and systematic approach was very helpful in collating specimen metadata. Overall Sinothando's performance during this expedition was outstanding and I would highly recommend her for future such opportunities.

Is this exchange likely to lead to future collaboration with the trainee's parent institution?

Working with SANParks on aspects of Marine Protected Areas I do believe that much of the experience gained by Sinothando during the expedition will certainly lead to future collaborations between SANParks and SAEON (South African Environmental Observation Network). Two aspects that I know will certainly develop into further collaborations is that of the seapen taxonomy and barcoding and education outreach engagement. Sinothando has a natural ability to easily engage with young people and I believe she will use her combination of scientific skill and passion for outreach to make significant contributions.

Please provide your comments on the Fellowship Programme.

This was my first experience with the POGO Fellowship Programme and I was very impressed with the level of structure, organisation and clear process applied. I was particularly impressed

with the willingness to engage with local scientists and take their views into account. This shows respect and consideration of the local setting and trust in those who are deeply embedded in the context. From my experience with the POGO Fellowship Programme, I will certainly be recommending further engagement with this programme to others. Thank you for this opportunity, it was very rewarding and enriching.

7.2.2) Dr Lara Atkinson (Science leg Moroni – Cape Town chief scientist and Doreen’s supervisor)

Please provide your comments on the performance of the trainee.

Ms. Doreen Mushi was our youngest member of the team (celebrating her birthday whilst at sea) and excelled in her enthusiasm and participation in all aspects of the research undertaken during the Science Leg 1 of the OX-OQ Around Africa Expedition (30 Jan - 23 Feb 2025). Doreen mostly focused on learning seafloor mapping processes and techniques and showed great interest and dedication in this component. She however was always present and involved when any of the other research was being undertaken including ROV surveys, sample processing, water filtering etc. Doreen also showed immense maturity and courage in requesting to give a presentation to everyone on board about her research being done in Zanzibar, Tanzania. She took full use of the opportunity of having other researchers present to improve on her presentation skills and I found this truly remarkable. It was such a pleasure to have Doreen participate with us on this expedition and I sincerely hope for ongoing collaborations with her. Doreen’s approach to life will destine her for success.

Is this exchange likely to lead to future collaboration with the trainee’s parent institution?

Collaboration with the University of Dar Es Salaam, through Doreen’s involvement is hoped to continue in the form of ongoing data processing, analysis and manuscript publishing of outputs from the Expedition. This collaboration may open up further opportunities to collaborate on other projects and having a contact with the University is invaluable for future project and opportunity planning.

Please provide your comments on the Fellowship Programme.

This was my first experience with the POGO Fellowship Programme and I was very impressed with the level of structure, organisation and clear process applied. I was particularly impressed with the willingness to engage with local scientists and take their views into account. This shows respect and consideration of the local setting and trust in those who are deeply embedded in the context. From my experience with the POGO Fellowship Programme, I will

certainly be recommending further engagement with this programme to others. Thank you for this opportunity, it was very rewarding and enriching.

7.2.3) Dr Yara Rodrigues (Science leg Mindelo chief scientist and Jaquelino's supervisor)

Please provide your comments on the performance of the trainee.

The trainee demonstrated a high level of enthusiasm and a strong commitment to supporting the team throughout the aerial survey campaign. He quickly adapted to the field protocols of the aerial observations and proved to be a reliable and proactive team member. His willingness to assist with logistical tasks, data recording, and in-field coordination contributed positively to the overall success of the operation. The entire team expressed satisfaction with his attitude, engagement, and collaborative spirit. With continued training and exposure, he has the potential to become a valuable asset in future marine research initiatives.

Is this exchange likely to lead to future collaboration with the trainee's parent institution?

I was genuinely impressed by his attitude, curiosity, and eagerness to contribute. His strong engagement, adaptability, and team spirit were clear assets throughout the fieldwork. Based on this positive experience, I have already invited him to join an upcoming project at our institution, which we believe will further strengthen the collaboration between our teams. We are currently working to establish a new research line focused on elasmobranchs, and I see great potential in his involvement. His motivation and growing expertise could make him a valuable addition to our efforts in developing this area of study. This collaboration also opens the door to broader initiatives such as joint field campaigns, training opportunities for other students, and co-authored scientific publications.

Please provide your comments on the Fellowship Programme.

The Fellowship Programme plays a vital role as a valuable platform for young scientists to gain hands-on experience, build international networks, and actively contribute to ongoing research efforts.

Importantly, it gives ECOPs the chance to demonstrate their potential in real-world scientific settings, something that is often difficult to achieve early in a career. For host institutions like ours, the programme is also an excellent opportunity to identify and engage with emerging talent who may become key collaborators in future research initiatives. Continued investment in this programme will not only benefit the individuals involved but also strengthen scientific capacity and cooperation across the region and beyond.

7.2.4) Dr Nathan Hubot (environmental DNA instructor)

Overall, I believe the training was a success. It was an incredible experience for the students, and I am convinced they learned a great deal—benefiting on multiple levels. On a personal level, this experience felt like a race and a challenge from beginning to end, but it was also immensely rewarding for me. The OceanXplorer is a one-of-a-kind vessel with an exceptional crew, and being part of that environment was both stimulating and inspiring.

I think that both POGO and OceanX did an amazing job at making this training happen. I hope that in the future a similar project will happen again. Personally, I would be very interested in being involved again—especially if the objectives are more strongly focused on scientific outcomes.

7.2.5) Dr Carla Berghoff (Ocean Acidification and Carbon chemistry instructor)

The expedition was conducted within an interdisciplinary framework, where all activities were carried out to a standard of excellence that far exceeded my expectations. This experience not only allowed ocean professionals from Africa to acquire knowledge and generate valuable information about oceanic carbon but also highlighted the relevance of research related to ocean acidification. The logistical arrangements for securing necessary materials, consumables, chemicals, and instrumentation were pivotal to the success of the training program. The collaboration with POGO, facilitated by Sophie Seeyave and her network, alongside colleagues from the ocean acidification community through GOA-ON and The Ocean Foundation, played a crucial role in acquiring essential resources. This underscores the importance of effective networking through POGO and initiatives like GOA-ON.

Several key contributions were made to ensure we had everything needed for the training. Ocean Xplorer provided various materials and consumables, while Kaitlyn Lowder (The Ocean Foundation) secured bottles and accessories. POGO channeled materials and consumables through Jethan d'Hotman (SAEON) and myself. Additionally, POGO secured the chemicals via Sarah Fawcett and Hazel Little-Leighton (University of Cape Town). André Hoek (Sea Technology Services) obtained Zero Air cylinders from Specialty Gases on behalf of POGO, and Mutshutshu Tsanwani (DFFE) provided the mercuric chloride solution. Sandy Thomalla (Council for Scientific and Industrial Research) contributed a high-quality two-stage regulator, while Jose Luiz Moutinho (OceanQuest) secured volumetric flasks, reagent bottles, and beakers. Kaitlyn Lowder (The Ocean Foundation) also obtained reference materials through the University of Miami. Furthermore, LiCOR provided a Total Alkalinity titrator and a Dissolved Inorganic Carbon

analyzer, coordinated through myself, Vanesa Mouta (Instrumentalia, Argentina), Alicia Minzel (VP of Global Sales & Support), and Mike Scaboo (Applications Scientist). A considerable amount of time was invested in these logistical efforts, including the procurement of equipment on loan from LICOR for training purposes. Although this preparatory phase was demanding, it ultimately proved rewarding, ensuring that we were well-equipped for hands-on training. While, as instructors, we brought valuable scientific knowledge to the table, it was the meticulous logistical preparation that truly underpinned our success. Without this diligent execution, the practical components of the training would not have been possible. Looking ahead, it would be advantageous to designate a dedicated individual to oversee these logistical preparations. This would help distribute the workload and alleviate some of the pressures on instructors prior to the cruise.

7.2.6) Mr Ulrich Bilounga (Ocean Acidification and Carbon chemistry assistant)

My main role during the expedition was to assist Carla, guide students in laboratory activities, sampling and running measurements. In the laboratory, after Carla theoretical and practical course, I followed the students in their practical work, particularly in sampling and analysing samples for measuring Total alkalinity. Besides that, I trained students on carbonate chemistry calculations using different software. I also lead a discussion with all the participants on “The importance of Ocean Monitoring in the African context”. The objective was to present the different challenges and gaps of ocean monitoring in the African context and engage all the Early Careers as new ambassadors to promote ocean monitoring in their home countries and wherever they will be in the continent

This cruise was a great experience, a pleasure of sharing knowledge and a learning journey. Interaction with POGO was fluid, Laura was always available at all times and quick to respond to our concerns, so I would like to take this opportunity to thank her very much and thank all the POGO team. From a logistical point of view, in spite of the difficulties encountered at boarding in Cameroon, I think everything was fine, because once I got through this stage, I had no more problems until my return.

The working facilities on OceanXplorer were simply incredible, with the OceanX team doing everything possible to ensure that we had everything needed to work in good conditions. It was both encouraging and daunting, as there was no reason why we couldn't produce a high-quality result.

I am very grateful to POGO for this first experience as Instructor on a shipboard training program. It was a special moment, an opportunity to work in a completely different environment from my daily one. I learned a lot in terms of organizing and preparing an expedition, scheduling daily CTD casts base on different information and objectives of the teams on board, organizing the laboratory in a particular context, I learned a new method of Total Alkalinity and DIC measurement, I learned on human relations and methods for disseminating knowledge. I had the opportunity to touch equipment that until then I had only seen pictures of, either in scientific documentaries or specialized magazines. “Merci”.

8) Post-cruise activities

Certificates of training completion were issued to all participants as formal recognition of their engagement and the competencies acquired during the programme (Figure 10). In several cases, these certificates were requested by trainees for submission to their home institutions in order to fulfil academic credit requirements.

Organised by OceanQuest and the AIR Centre, two webinars were held to showcase the success and achievements of the Around Africa Expedition to a global audience. POGO supported the dissemination of both announcements through its [communication channels](#).

The first webinar, Seamount Deep Dive on the Around Africa Expedition, held on 29 May 2025, highlighted the success of the Expedition, via the stories of some of the key architects and participants of the expedition, sharing scientific insights, operational experience, and personal reflections. Participants included representatives from OceanQuest, OceanX, the chief scientists of both science legs, and one of the POGO trainees on the expedition, Ms Sinothando Shibe (Figure 11). The session was livestreamed and is available for public viewing on YouTube [here](#), where it has garnered over 146 views to date. The second webinar, held on 30 May 2025, highlighted the experiences of the POGO trainees who participated in the two training-dedicated legs and was co-moderated by representatives from OceanQuest and the POGO Secretariat (Figure 11). The session was livestreamed and is available for public viewing on YouTube [here](#), where it has garnered over 224 views to date.



Figure 10 - Certificates of training completion signed by POGO and OceanQuest.



Figure 11 - Posters for the two webinars showcasing the success and achievements of the Around Africa Expedition.

At the third United Nations Ocean Conference, one of the POGO trainees, Ms Sinothando Shibe, participated in a session on the Around Africa Expedition during the OceanQuest VIP Launch Event, held aboard the *OceanXplorer* on 10 June 2025. POGO representatives were also actively involved in activities alongside Around Africa partners. Notably, POGO Chair Captain Francisco Arias attended the OceanQuest Launch Event (Figure 12), while POGO CEO Dr Sophie Seeyave and Scientific Coordinator Dr Lilian Krug contributed to the success of the Deep Blue Pavilion by taking part in a “Meet the Expert” session. Dr Seeyave and Dr Krug engaged with the general public, introducing the importance of ocean observations in both English and French (Figure 12).



Figure 12 - POGO Chair, Cap Francisco Arias, attended OceanQuest event aboard OceanXplorer. POGO CEO and Scientific coordinator talk about ocean observations during the Meet the Expert Session at the OceanX and OceanQuest sponsored Deep Blue Pavilion at the UN Ocean Conference (Images credits: Francisco Arias and Fiona Beckman, POGO).