

**2025 POGO-OceanX-OceanQuest Fellowship for Shipboard Training on the
Around Africa mission aboard the OceanXplorer**

Report

Name of Trainee: Sinothando Shibe

Name of Supervisor (Parent Institution): Dr Alison Kock

Supervisor (Host Institution): Dr Lara Atkinson

Dates of Training: 29 January 2025 to 23 February 2025

Topic of Training: Around Africa Expedition

Section A

(To be completed by the fellow)

It is the responsibility of the trainee to forward this form to the host and parent supervisor, and to submit a fully completed version to the POGO Secretariat. Please note that the complete report will be made public on the OTP website; Private comments should be included in a separate confidential form.

1) 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.

2) 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.

3) 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.

PRINT NAME

Sinothando Shibe

Date: 02/05/2025

Section B

(To be completed by the host supervisor and returned to the trainee)

Please note that the complete report will be made public on the OTP website; Private comments should be included in a separate confidential form.

1) 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.

2) Is this exchange likely to lead to future collaboration with the trainee's parent institution? If so please give example(s) of how this collaboration may be pursued.

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.

3) 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.

PRINT NAME

Dr. Lara Atkinson

Date: 06 / 05 / 2025

SECTION C

(To be completed by the parent supervisor and returned to the trainee)

Please note that the complete report will be made public on the OTP website; Private comments should be included in a separate confidential form.

1) Do you agree with the above comments and do you have any additional feedback you wish to provide?

PRINT NAME

Date: / /