

NF-POGO-OOI-WHOI Shipboard Training aboard Station Papa cruise (R/V Sikuliaq) hosted by WHOI, USA

Report

Name of Trainee: Aditi Sharma

Name of Supervisor (Parent Institution): Dr. VVSS Sarma (National Institute of Oceanography, India)

Supervisor (Host Institution): Dr. Jim Edson (Woods Hole Oceanographic Institution, U.S.A)

Dates of Training: 28 May 2024 to 15 June 2024

Topic of Training: NF-POGO-OOI-WHOI Shipboard Training aboard Station Papa cruise

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:

The primary objective of the Global Papa 11 cruise was to recover and deploy moorings and gliders for the National Science Foundation's Ocean Observatory Initiative. After a 2.5-day transit, we began deploying these instruments. CTD casts with water sampling at the mooring and glider deployment sites were conducted to validate instruments and verify data. Additionally, a wave rider mooring for the University of Washington was deployed. Despite harsh weather, the deployment and recovery operations were successful. I gained hands-on experience with winch operations, deployment procedures and calibration techniques.

In addition to these activities, we successfully completed a short-term project comparing near-surface temperature and skin temperature. A thermistor known as the "sea-snake" was dragged alongside the ship to measure near-surface temperature, approximately 5 cm below the sea surface. Skin temperature was measured using an infrared radiation pyrometer. Sea-Bird temperature sensors located at the centerboard and forward seachest (bow thruster room) were also utilized to measure temperature of water at different depths. This allowed us to quantify diurnal warming and other processes contributing to temperature gradients. As part of this project, we also calculated heat moisture, and radiative fluxes using meteorological variables collected from the mast on the forward port of the ship.

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

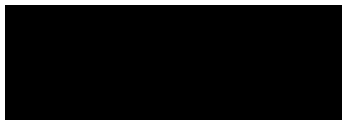
At my home institution, I am engaged in a project focused on monitoring physical, chemical, and biological variables in the coastal Bay of Bengal using a fixed mooring buoy equipped a range of meteorological sensors capable of transmitting data via GPRS and satellite systems. The training I received during the OOI-WHOI Papa cruise, particularly in mooring deployment and calibration techniques would be immensely valuable for implementing similar methodologies in our project.

3) Please provide your comments on the Fellowship Programme.

Being selected for the 2024 NF-POGO-OOI-WHOI Shipboard Training Fellowship has been an incredible opportunity, for which I am deeply grateful. POGO provided the constant support, coordinating every aspect of my travel and ensuring a seamless experience throughout. Working under the mentorship of Dr. Jim Edson was both a privilege and a pleasure. The expertise and guidance of the entire team of experts during the cruise were invaluable, offering me a great learning opportunity. I believe this experience has significantly enriched my understanding and skills in oceanography. I am eager to share my journey with peers and inspire them to explore similar enriching opportunities in their careers.

PRINT NAME

Aditi Sharma



Date: 24 / 06 / 2024

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.

Aditi's application stood out during the review process and, if anything, it underestimated her capabilities. She set a high bar for future fellows in the program. Our initial focus on one science project that compared the various sea temperature sensors on the ship. This included a "sea-snake" temperature sensors that we dragged off the side of the port bow. She was completely involved in its deployment and was in charge of maintaining the sensor during the cruise. More importantly, I asked her to pull the set of variables required to compute the net heat flux into and out of the ocean from the ship's data sharing system. She quickly mastered the process to download and merge the data with little instruction from me. As to the deployment/recovery activities, she was a little shy at first, but grew in confidence everyday. In no time she was helping out on the fantail anyway she could. This was noticed by the WHOI crew, who had her running the large winch used to pull in the mooring lines towards the end of the cruise. Aditi was a real pleasure to work with.

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.

I hope so. In 2021, I gave a series of zoom lectures on how to process data from a Direct Covariance Flux System (DCFS) to scientists at Indian National Centre for Ocean Information Services (INCOIS). This led to an in person visit to India at both INCOIS and the National Institute of Advanced Studies on the IIS campus, where I gave lectures on air-sea interaction and more detailed lectures on the DCFS. I would enjoy doing something similar at National Institute of Oceanography. This could easily be virtual presentation(s) or as a side-trip of a program being developed for another project between WHOI and INCOIS.

3) Please provide your comments on the Fellowship Programme.

Although it may be difficult to find a fellow as talented as Aditi, I would definitely like to continue WHOI/OOI participation in the Fellowship Programme. We would likely take advantage of cruises out of Woods Hole to reduce the amount of travel. We will also take advantage of lessons learned to make it easier to setup up visits for Fellows as visiting scientists. However, the activities we provided both at WHOI and aboard the ship seemed to be about right for hands on experience.

PRINT NAME

James B. Edson

Date: 01 / 07 / 2024

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 OTPwebsite; 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?

I agree with the comments given by James and I must thank him for giving excellent opportunity to Aditi on learning new techniques and data processes onboard. The lessons learned by Aditi will be highly useful to our group on applying the data collected in the Bay of Bengal. I will be very happy to host James to deliver some lectures to our colleagues and students and look forward for such



opportunity. I would also like to thank POGO for providing such opportunities to the students to enrich their knowledge.

PRINT NAME

VVSS SARMA



Date: 03 / 07 / 2024