

**2019 NF-POGO PML Visiting Fellowship for
Ship-board Training on an Atlantic Meridional Transect (AMT) Cruise**

Fellowship Report

Name of Trainee: Anakha Mohan

Name of Supervisor (Parent Institution): Dr. Sreenath K.R.

Supervisor (Host Institution): Dr. Gavin Tilstone

Dates of Training: From September 12 to December 21 2019

Section A

(To be completed by the fellow and returned to the POGO Secretariat)

Please note that this form will be passed on to the host and parent supervisor and when complete will be made publicly available on the [OTP](#) website;

1) Please provide a brief description of activities during the training period:

Sea Survival Training,
ENG1 Medical,
Health and Safety induction course,
COSHH and RISK assessments,
Experimental design, definition of hypotheses and objectives,
Training in the spectrophotometric analysis of phytoplankton (total and size-fractionated) absorption coefficients,
Training in the fluorometric analysis of size-fractionated Chl a,
Training in FastOcean measurements,
Training in data processing and statistical methods.

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

The skills I acquired in the tenure of this fellowship will definitely help me to adapt similar studies in the Indian ocean. I have given a brief presentation on the activities I have undertaken and taught some of the skills I have learned to my colleagues. The Central Marine Fisheries Research Institute has its own research vessels and similar cross Indian Ocean surveys and studies on biooptics of size-structured plankton can help in constructing more accurate models for this part of the world.

3) Please provide your comments on the Fellowship Programme.

This fellowship programme opens a potential opportunity to get decent training and experiences to the students and researchers. This is one of the best programmes I have ever attended, it delivers high-quality training at almost no cost. As an early-career researcher, I so much appreciate such a fellowship program because it allows the young researchers to be integrated with international research teams with well-known experts from prestigious institutions which would help to improve the personal skills, capacity building, and the knowledge of the researcher. I got a chance to analyse samples from previous AMTs, along with the data generated from AMT29. I'm so happy that a couple of joint publications (one lead by Gavin Tilstone on size-fractionated phytoplankton absorption



coefficients; one led by Bob Brewin using AMT26 data; one lead by Ray Barlow using both AMT23 & 26 data) are envisaged. Moreover, this program helps a lot to build a solid network of experts from various nations paves the way for future collaborations. Overall, I highly recommend this programme to graduate students who are looking for the most amazing and enriching experience of their lives. I can confidently say it will have been worth it to join in Ocean Training Partnership by POGO.

PRINT NAME

Anakha Mohan

Date: 20/01/2020

Section B

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

Please note that this form will be passed on to the parent supervisor and trainee and when complete will be made publicly available on the [OTP](#) website;

1) Please provide your comments on the performance of the trainee.

Anakha's POGO fellowship was composed of three components:

1. 11 Sept to 09 Oct 2019 for Sea Survival training, ENG1 medical, cruise packing and mobilisation and to learn analytical techniques including fluorometric analysis of Chl-a, fluorometer calibration, training in phytoplankton absorption coefficients, training in FastOcean.
2. On board training on AMT29 from 13 Oct to 24 Nov 2019.
3. 29 Nov to 21 Dec 2013 data analysis and processing of phytoplankton absorption coefficients.

The following data sets were collected and analysed:

- A. Size-fractionated and total Chlorophyll-a along an Atlantic Meridional transect.
- B. Size-fractionated and total Phytoplankton absorption coefficients along Atlantic Meridional transect.

During her time both at PML and on board RRS Discovery, Anakha worked well and conscientiously. Since she had not previously undertaken this type of research, the experience was a steep learning curve with exposure to new techniques and in a different environment aboard a ship. She learnt the necessary techniques very quickly and was very motivated to carry out this research to a high standard. Her rapid learning of the techniques enabled her not only to develop the methodology required to undertake size-fractionated phytoplankton absorption coefficients, of which there is very little data available, but also to analyse samples from previous AMT cruises. She adapted very well to the working environment, both at PML and on the ship and also to the long working hours, that is normal at sea. She was / is a real joy to work with. Through this POGO-AMT fellowship, I am confident that she has learnt techniques that will benefit her future career and ultimately the research at her home institute. For her future career I strongly encourage her to seek funding for a PhD in marine optics / modelling which she has a natural affinity for. To summarise, Anakha has i.) gained experience in the measurement of size-fractionated chlorophyll-a and phytoplankton absorption coefficients, ii.) was trained in a number of analytical methods and techniques, iii.) and also analysed a number of historic AMT samples. The work she has undertaken at PML and on AMT29 will be beneficial in her PhD and in her future research in India.

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.

Yes; not only did Anakha generate datasets from AMT29, she also analysed historic data from AMT23 (that was not completed by a previous POGO fellow) and AMT26. I envisage that these data will lead to three joint publications (one lead by Bob Brewin using AMT26 data; one lead by Ray Barlow using

both AMT23 & 26 data; one lead by Dr Gavin Tilstone on size fractionated phytoplankton absorption coefficients

3) Please provide your comments on the Fellowship Programme.

The fellowship programme has undoubtedly provided the student with a unique opportunity to further her future career, which will hopefully benefit India. During her fellowship Anakha also submitted an abstract from the work she did on AMT29 that she will present at the 3rd International Symposium on Marine Ecosystems Challenges and Opportunities (MECOS3) organized by the Marine Biological Association of India (MBAI) at the Central Marine Fisheries Research Institute, Kochi, India, from January 7th to 10th. 2020. This experience a strong foundation for the fellow to build on her future research. I wish her every success for her future.

PRINT NAME

Date:

SECTION C

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

Please note that this form will be passed on to the host supervisor and trainee and when complete will be made publicly available on the [OTP](#) website;

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

I completely agree with the comments given above. Anakha is one of the best students I ever had. She has a burning desire to learn new things. POGO-AMT fellowship has provided an excellent opportunity for her to exploit her persevering nature. The commendable training she undertook under Dr. Gavin Tilstone and his moral support has increased her confidence that she could beat several odds to make it to the cruise and participate in the onboard activities even at such bad weather conditions she ever would have faced in her life.

I am much grateful for considering and hosting Anakha for this fellowship program and the cruise. The top-notch facilities and research ambiance she could avail are many a time not available for early career researchers in this part of the world. The training was definitely a milestone in her career.

DR. SREENATH K. R.

Date: 22.01.2020