



REPORT ON AMT-POGO FELLOWSHIP PROGRAMME 2017

Trainee's Report

Name of Trainee: Ms Cristabel Macrina Fernandes
Gonsalves

Supervisor (Parent Institution): Dr Maria Judith

Supervisor (Host Institution): Dr Andy Rees

Dates of Training: 28/08/17 12/12/17

Subject of Training: Determination of dissolved and atmospheric greenhouse gases (CO₂, N₂O & CH₄).

1) Please provide a brief description of activities during the training period: The first few weeks of my stay at PML was spent in several pre-cruise preparations including the sea survival course, packing equipment and consumables as well as learning the working and handling of the Gas Chromatograph. Onboard the ship, I helped Dr. Andy Rees and Ian Brown in setting up the lab as well as the Gas Chromatograph. During the cruise, I followed a routine which involved collecting CTD samples from mainly 4 depths (Surface, deep chlorophyll maximum, 300m and 500m) from two CTD casts (pre-dawn and noon) and analysing them on the Gas Chromatograph for the concentration of dissolved N₂O and CH₄. I also collected and analyzed samples from the ships underway system for the same. Once back at PML, I was trained by Dr. Vassilis Kitidis for measuring Total alkalinity (TA) and Dissolved inorganic carbon (DIC), and analyzed few test samples from AMT24. In the last week of my stay at PML, I was trained by Ian Brown for understanding the various calculations involved in the N₂O and CH₄ measurements and also worked with him in interpreting the data we collected from the cruise.

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

The experience I gained during this fellowship in terms of the scientific skills and techniques as well as the knowledge I acquired through my interactions with the other scientists is beneficial for me as I plan to start my PhD in 2018. This topic is also researched upon at the parent institution and a lot of graduate, postgraduate and researchers have shown interest in investigating and researching this issue further. Hence the knowledge and hands on experience gained during this training will go a long way in adding and upgrading the efforts at our institutional level towards answering several questions related to this subject.

3) Please provide your comments on the Fellowship Programme.

Beginning from the pre-cruise preparations to the data interpretation this fellowship provided me with a unique and amazing experience. The fellowship was very well planned and organized into three parts, to prepare for the cruise, conduct experiments on board and finally analyze the data collected. Apart from learning a number of in-situ data collection skills and techniques, the time spent on the RRS Discovery was truly an adventure for me along with a very helpful crew and the co-operative spirit of the colleagues on board as this was my very first cruise. My supervisor for this fellowship programme was Dr. Andy Rees, who was very supportive and always helped and encouraged me with any difficulty I would have at any point on the cruise. His hard-working attitude is truly an inspiration to a beginner like me. Working under him was great as he is extremely helpful and patient with profound subject knowledge and expertise. The cruise also gave me a good opportunity to interact with scientists from different disciplines and skills. I would like to thank Ian Brown, for the knowledge, guidance and skills he provided me with during my stay at PML. Finally, I am thankful to POGO for giving me this incredible opportunity.

4) Please provide details as to how your contribution towards living expenses was spent.

Most of my stipend was spent on food and other living expenses. Some portion of my stipend was spent during my stay at Falkland islands. The receipts have been given to the POGO Secretariat.