



REPORT ON AMT-POGO FELLOWSHIP PROGRAMME 2017

Supervisor's Report (Host Institution)

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 the activities during the training period.

The training programme was split largely into three parts:

1) Pre-cruise preparation: familiarisation with Plymouth Marine Laboratory procedures including health and safety protocols and responsibilities. Medical & dental checks, sea survival training, packing and loading of equipment.

2) N₂O & CH₄ analysis during cruise: Training was provided in the collection and analysis of seawater samples for nitrous oxide and methane. Daily routine then involved collection of samples from 2 x CTD casts per day plus from the ships surface seawater supply. Analysis of all samples using GC-FID for methane and GC-ECD for nitrous oxide. Analysis of chromatography was performed on a daily basis in order to deliver dissolved and atmospheric concentrations for each gas.

3) CO₂ (dissolved inorganic carbon & total alkalinity) measurements post cruise. Training was provided in the use of analytical procedures. Samples collected during AMT-27 are still in transit between the Falkland Islands and the UK and so in order to gain familiarisation with techniques for analysis of the carbonate system, Cristabel analysed a number of samples from AMT-24.

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

Christabel proved to be a very keen and dedicated person who was a real joy to have around, she mixed well with colleagues at all levels and made an excellent contribution to the work that she was involved with. She encountered a number of personal difficulties in part associated with being in alien territory but to my knowledge all of these were resolved.

Christabel had some limited experience of the work that she was involved with and that certainly helped. She reacted well to all advice and followed protocols accordingly. Whilst she found the routine nature of research at sea challenging at times, she remained committed and has contributed to an excellent set of data.

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

Unfortunately Christabel had to resign her position to take up the fellowship and so I am uncertain as to how this relationship will continue.

4) Please provide your comments on the Fellowship Programme.

I believe that the benefit to the individual Fellow is huge in providing them with exposure to a different culture and enabling the experience of ocean research at a level they would struggle to obtain elsewhere. Normally this programme provides an excellent opportunity for collaboration and capacity building. In this instance this will be difficult to realise, as Christabel will not be returning to NIO. Her intention is to follow a career in marine research and so she will benefit in the long run, it is difficult to see at this stage how capacity building or collaboration will result in the short term.