REPORT ON AMT-POGO FELLOWSHIP PROGRAMME 2014

Trainee's Report

Name of Trainee: Dr Rafael Rasse   **Supervisor (Parent Institution):** Dr Tibisay Perez

Supervisor (Host Institution): Dr Giorgio Dall'Olmo   **Dates of Training:** 12/08/14 – 01/12/2014

Subject of Training: Investigating empirical relationships between particulate organic carbon concentrations and inherent optical properties across biogeographical provinces of the Atlantic Ocean

1) **Please provide a brief description of activities during the training period:**
   The first and half month: I learned to program by mean of Matlab. For that, I have processed a large datasets (inherent optical properties, physicochemical properties, particulate organic carbon (POC) and pigments) from previous AMT expeditions (AMT-19 and AMT-22). Simultaneously, I have acquired new basic and advanced knowledge about optical properties of the ocean (basic concepts, instrumentations/methods normally used to measure these, and its applications to predict biochemical parameters such as POC) among others relevant aspects.

   The last two and a half months. I participated actively in the AMT-24 between 22nd September and 1st November 2014 (a total of 42 days in the sea). Before the beginning of the cruise, I spent most of the time helping to place all instruments used for measure optical properties of the ocean as well as the filtration system to collect samples of POC, total suspended solids and pigments. My activities over the cruise were divided in two periods. During the morning I was processing data from previous AMT and discussing these results with Dr. Giorgio. I also began to write a manuscript that we are planning to submit for peer-review. Over the afternoon (between 5-6 hours per day) I was filtering sea water from mesopelagic region (between 2- 500 m depth) to collect and store samples of POC and total suspend solids (We collected around 700 samples). Over the last period of this fellowship, I worked with data from previous AMT and I was writing the draft of the manuscript (I'm still working on this).

2) What applications of the training received do you envision at your parent institution?
The most useful applications that I acquired over the training were: 1) processing large data sets by mean of Matlab and 2) The valuable knowledge in ocean optics and its applications to better understand the biogeochemical cycles of C, O and N. The main topic of research in my institution consists to study the dynamic of the carbon and nitrogen cycles in the Cariaco basin and Caribbean Sea. Therefore, I'm planning to use all mentioned tools for improve the quality of my current research and contribute   to better understand the C and N cycle in these places.

3) Please provide your comments on the Fellowship Programme.
This fellowship was an important opportunity to update my scientific knowledge in the best practices of oceanography, particularly, in the optical properties of the ocean and its applications. the most important contribution of the fellowship was the international collaboration that I have established with Dr. Giorgio Dall'Olmo. I consider him an exceptional scientist and person, who made easier our professional interaction. We expect to continue collaborating in the future. For the next fellowship I recommend include

an international insurance (worldwide) for overall period of the training. This is not expensive and it can easily get from many websites.

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

I spent most of the fellowship in the rent of my room (45%) and food (30%). I spent the remaining amount in transportation (taxis and buses), international insurance and others activities.

Please return completed form by e-mail to: pogoadmin@pml.ac.uk