

NF-POGO-IEO Shipboard Training Fellowship – RADMED cruise hosted by the Instituto Español de Oceanografía (IEO), Spain.

Fellowship Report

Name of Trainee: Ghoufrane Derhy

Name of Supervisor (Parent Institution): Pr. Karima Khalil

Supervisor (Host Institution): Dr. Mari Carmen García Martínez

Dates of Training: 5 December 2021 to 30 March 2022

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:

During my last training with the Mediterranean climate change group in the IEO of Malaga and my participation in the RADMED cruise, I have been assisted to various physical, chemical and biological measures, with an objective to study the hydrographic conditions, planktonic communities, seasonal cycles of these variables. In my pre-period shipboard training, I have participated in different analysis performed in the laboratory including identification of different planktonic communities, for the Phytoplankton based on the Utermöhl method and for Zooplankton using Zooscan, as well as for the pico, nano and bacterioplankton, these group were analysed based on the flow cytometry and each day we collect samples from the beach of Fuengirola to determine in vivo the concentration of chlorophyll using Algaelab and also measuring the pH through a potentiometric method.

During the cruise, I have participated in all water sampling on board to analyse different parameters And determination of inorganic nutrients, chlorophyll, dissolved oxygen, salinity, pH, AT, phytoplankton (by microscope and flow cytometry) and bacteria. I also attended the sampling of zooplankton using oblique planktonic trawls with a mouth opening of 20 cm diameter and two nets of 100 and 250 µm. I was able also to observe different CTD profiles in all stations to see the fluctuations of temperature, chlorophyll concentration, salinity and dissolved oxygen by depth.

After the cruise, I participated in the analysis of some samples collected and that are not analysed during the cruise. Mainly measuring the dissolved oxygen concentration using the Winkler method and also determining the composition and abundance of phytoplankton by flow cytometry

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

As in my thesis I am working mainly on the assessment of fish stocks and analysing their correlation with environmental conditions in the Moroccan Atlantic coast. In our laboratory (Applied Sciences for the Environment and Sustainable Development) we already have some experience in fisheries data collection and we aim to improve this work with other data that are not available about the environmental factors for marine management tools. To achieve this aim, I would transfer my knowledge acquired during this training on different type of measurements methods specifically the phytoplankton and zooplankton identification to assess the trophic relationship from the primary producers to groups with high trophic levels in a marine ecosystem and also analyse the concentration of dissolved oxygen and chlorophyll concentration, which can be used in my laboratory in order to build our oceanographic laboratory.

3) Please provide your comments on the Fellowship Programme.

This Fellowship Programme was a good opportunity to develop my knowledge on water analysis methods, as my research has focused on using time series of oceanographic data without understanding how they are obtained. But after this internship I became more involved in the practical work in an oceanographic laboratory and I easily integrated into the team both in the laboratory and during the cruise that was my first experience sailing in an oceanographic ship.

PRINT NAME

Ghoufrane Derhy

Date: 26 / 04 / 2022

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.

Ghoufrane Derhy has been doing a very good work during her stay at the Oceanographic Centre of Malaga (Spanish Institute of Oceanography). She has proven to be a very good worker. She has being trained in multiple laboratory tasks: inverse microscopy, flow citometry, zooscan, pH determination, chlorophyll a, etc. She has been also working in the preparation of the RADMED cruise in which she has participated being very active and helpful for the rest of the team. She also has been involved in the analysis of the samples collected during the cruise.

During her fellow training Ghoufrane gave a talk to the IEO staff (in person in Malaga and online for all the IEO) about her work in her parent institution.

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.

This exchange is a fantastic starting point for future collaborations with her parent University. We are really interested in having Ghoufrane again with us, because her expertise in fisheries and its relation with environmental factors can be really helpful for our research group.

3) Please provide your comments on the Fellowship Programme.

In my opinion this type of programme allows international collaborations that would not otherwise be possible. It is a fantastic way to establish contacts with other researchers working in similar lines of research, and to compare different working methodologies.

PRINT NAME María del Carmen García Martínez

Date: 28 /04 / 2022

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?

First of all, I would like to thank POGO programme and the host institution for giving our PhD student Ghoufrane DERHY the possibility to do this training. Ghoufrane worked mostly with models, this training allowed her to be closer to experimentation in laboratory and during the cruise. On the other hand, this training could open future collaboration with the host institution for participating to call for projects together, co-supervising PhD students, co-organizing conferences, ...
Therefore, I totally agree with the above comments and I encourage our students to participate to this international programme.

PRINT NAME

Karima KHALIL

Date: 27 / 04 / 2022