

REPORT ON NF-POGO PAP FELLOWSHIP PROGRAMME 2017

Supervisor's Report (Host Institution)

Name of Trainee: Jessica Song

Supervisor (Parent Institution): Dr. Moritz Mueller

Supervisor (Host Institution): Dr Claire Evans **Dates of Training:** 18/03/17 – 31/05/2017

Subject of Training: "Determination of the growth and mortality rates of the different Prochlorococcus ecotypes found throughout the water column in the Atlantic Ocean"

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

During Jessica's visit to my laboratory at the National Oceanography Centre UK she participated in a research cruise to North Atlantic focused on the Porcupine Abyssal Plain sustained Observatory site (PAP). During this cruise Jessica completed a research project to study the growth and mortality (viral lysis and microzooplankton grazing) of the biogeochemically important and ecologically relevant pico- and nano-phytoplankton abundant in these regions. She also investigated whether micro plastics altered rates of microzooplankton grazing on the phytoplankton. As such Jessica participated in all activities pertaining to the cruise from the preparation of chemicals to the packing of boxes and installation of equipment on the moving platform of the Research vessel Discovery. She learnt a variety of practical skills such as how to conduct dilution experiments, taking care to replicate in situ conditions using light screens and flow through incubators. She also mastered the enumeration of eukaryotic and prokaryotic cells via flow cytometry on both fresh and stained samples. Jessica was also able to interpret the results she gained in spread sheets constructed together which examined the growth of the target organisms in her experiments.

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

Jessica showed a very impressive work ethic throughout the campaign. Whilst the cruise itself was relatively short by typical standards it necessitated a far more intense approach to sampling, leading to continually shifting working patterns. I was very impressed at how Jessica managed to cope with this and integrate well into the international team present on the ship. Jessica worked hard to overcome many of the practical issues we encountered during her experimental programme. Dilution experiments are highly tricky to run and the results they generate difficult to interpret, yet Jessica showed an understanding of the analysis of her findings that I might not expect all students to possess. Alas, I feel we did not obtain the elusive publishable data set during this expedition but Jessica's findings bring us closer to improving our experimental design.

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

Indeed, future collaborative work is planned via a number of avenues. Specifically related to the topic of Jessica's research we plan to submit a PhD studentship under the SPITFIRE programme.

4) Please provide your comments on the Fellowship Programme.

I very much appreciated the opportunity to host Jessica in my lab as a way to: develop partnerships with colleagues in Malaysia; promote the mentoring of the next wave of scientific talent; and deepen our research capacity. Jessica was a pleasure to work with and to see her develop her understanding and skills throughout the fellowship was very satisfying. The fellowship programme is a valuable opportunity to promote the exchange of ideas, set up new partnerships and build capacity in both host and home laboratory and I would recommend them.

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