

Vicky Sleight
Microbial Oceanography course, Bermuda

I am a marine biology student from Plymouth University. Coming towards the end of my degree, my current priority is to engage in advanced training to help bridge the gap between undergraduate study and postgraduate research. I am starting a PhD on ocean acidification and calcification with the help advance my scientific skills and thinking.

The Bermuda Institute of Ocean Science (BIOS) is an independent research and education institute. Taking advantage of Bermuda's ideal location for deep-ocean as well as coral reef research, the internationally recognised institute has contributed significantly to the most pressing environmental issues of our time. What better place study about the global significance of marine microbiology? For three intense weeks during June 2013 I had the opportunity to attend a fantastic microbial oceanography course at BIOS. Biogeochemistry, ecology and genomics of oceanic microbial ecosystems were the broad topics addressed.

The course began with a two day research cruise upon the Atlantic Explorer in the Sargasso Sea. On board, samples were collected for use in a remineralisation experiment which we set-up upon our return to Bermuda. The experiment aimed to investigate different transport routes of dissolved organic carbon (DOC) through bacterioplankton communities. Working as a team, my fellow class mates and I learnt a range of techniques from basic microscopy through to TRFLP which were all taught within the context of the experiment. Alongside laboratory sessions and running a 12 hour time series experiment, the course also integrated a concentrated lecture and computer workshop schedule. During the last week of the course the focus shifted away from practical lab skills and focussed in on bioinformatics and meta-analysis.



I found the course challenging as it forced me to think about biology from a global cycling perspective, where as previously I have worked on the individual and sub-individual level. The majority of the techniques I learnt on the course were new to me and I found the meta-analysis section particularly exciting. Furthermore, I consider meeting new scientists and learning different perspectives on similar problems an instrumental aspect of my training. Making a new set of lifelong friends and colleagues, as well as working with four of the sharpest minds in marine microbiology has been a privilege, and an experience I will carry with me throughout my career.

In the future, whilst conducting my PhD research, I will be using bioinformatics and meta-analysis to investigate how transcriptomes alter with ocean acidification. I feel the training I have received on the MO course will prepare me to tackle my research questions from a unique perspective. I aim to merge the bigger ocean and global processes perspective with animal physiology in the hope of increasing our mechanistic understanding of organism responses to climate change, ultimately increasing our ability to make predictions.