WP16 Training

Objectives:

-To train and educate young researchers (PhDs and Postdocs) in research approaches, theories, and methods through local lectures, staff exchanges, secondments, research theses work, lectures, intensive training courses.

Description of work and role of participants:

T16.1: Training workshop on the fundamentals of marine carbon biogeochemistry. A study for scientists and students on the global carbon system, best practices for carbon system measurements and the latest scientific understanding of ocean acidification. (UiB, IOC-UNESCO).

T16.3: Training workshop on methodologies and scientific results of perturbation experiments to understand ecosystem and biogeochemical responses and feedbacks to ocean acidification (UiB, IFM-GEOMAR)

1.3.3.2- Fundamentals of carbon biogeochemistry

This training course, to be held in Bergen in ***late 2008***, will focus on the fundamentals of the marine carbon dioxide system, carbon biogeochemistry with ecosystem controls and feedbacks. This work-shop will introduce the IOC-sponsored "*Guide of Best Practices for Oceanic CO_2 Measurement and Data Reporting*" (2007) and will provide a comprehensive insight into:

- The global carbon cycle
- pH scales and dissociation constants
- Ecosystem carbon biogeochemistry
- Physiological processes of autotrophic carbon assimilation
- Biogenic calcification and the $CaCO_3$ cycle
- Mediation of the carbon cycle through microbial processes

- **Jointly funded by EPOCA and CARBOOCEAN**

1.3.3.3- Perturbation experiments - the way forward

This workshop, to be held in ***summer 2009***, will introduce and evaluate perturbation techniques used in acidification experiments and will evaluate organism and ecosystem responses to ocean acidification and discuss a common way forward towards standardising and reporting EPOCA experimental procedures.

- From *in vitro* to the open ocean: a review of perturbation methodologies
- A history of organism and ecosystem response to acidification
- Acidification from the cellular to the global scale: balancing the perturbation and the model requirements
- **How to use the EPOCA database**