Participants in MarBEF training course in Napoli, Italy, in November 2004.

MarBEF training report

MarBEF Advanced Course on "The Role of Flow Cytometry in Marine Biodiversity and Ecosystem Functioning," Stazione Zoologica A. Dohrn of Napoli, Italy, 3-6 November 2004

By Raffaella Casotti & Glen Tarran

THE OBJECTIVE OF THIS COURSE was to introduce postgraduate students and early researchers to flow cytometry as a generic tool for addressing challenges associated with marine biodiversity and ecosystem functioning, spanning applications from individual cells to plankton communities.

Theoretical sessions were grouped into three themes. "General flow cytometry" focused on the technical principles of this technique. "Biodiversity" provided insights into the application of flow cytometry to answer questions related to biodiversity, distribution and species recognition, particularly for marine algae and bacteria. Within this theme the diversity of flow cytometers was also presented, to inform the students about recent advances that are now commercially available. "Ecosystem Functioning" presented aspects of global species distribution, physiology and some of the main processes that control the functioning of marine ecosystems.

Practical sessions were aimed at introducing different types of instrument and at presenting examples of analyses and applications. Five companies (Becton-Dickinson, Beckman-Coulter, DAKO Cytomation, Fluid Imaging Technologies and CytoBuoy) provided new-generation flow cytometers and specialists for the course, giving students the opportunity to compare instruments and appreciate the features best suited for their own work. Sessions were organised in parallel, and in some cases students were able to operate the instruments themselves, analysing their own samples.

The speakers (Isabelle Biegala, Christophe Brunet, Raffaella Casotti, George Dubelaar, Pep Gasol, Gérald Grégori, Bill Li, Mike Sieracki, Glen Tarran and Marcel Veldhuis) were present for the whole course to maximise contact with the students. This allowed students to discuss practical issues and future research plans. Students also brought along posters outlining their current research. The posters and poster sessions were a valuable resource for discussing and interpreting results in which flow cytometry had been used and for planning how flow cytometry might be incorporated into future experiments.

The course was organised by the Stazione Zoologica A. Dohrn, Italy (Raffaella Casotti) and the Plymouth Marine Laboratory, UK (Glen Tarran). In addition to MarBEF funding, economic support was provided by the SZN and the Italian Society of Cytometry. A total of 35 students from Europe (one from Mexico) participated in the course, of which 18 were from MarBEF institutions. The course attracted more women (60% of participants) than men. The students had a mixture of flow cytometry experience, with 40% being novices.

We strongly believe that this was a successful course, providing beginners with a basis for using flow cytometry at their own research institutions, and more experienced students with the opportunity to broaden their field of application. The course was also a success from the students' point of view. This was reflected in the very positive evaluations made by the students at the end of the course.

In the interests of spreading excellence and communicating the knowledge from the course to the MarBEF community and beyond, all material from the course, including the programme, participants list, lectures, student posters, companies' presentations and pictures, are now available on the MarBEF website at www.marbef.org. ●

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