

ECORD Bremen Summer School on deep-sea sediments: From stratigraphy to age models, September 9-20, 2013, Bremen, Germany

The ECORD Bremen Summer School was an intense workshop focused on the sampling, preparation, curation and study of IODP cores, with a focus on the theoretical and practical conversion from the different indicators into age models.

Thirty PhD, MSc and bachelor students attended the summer school. They came from Austria, Belgium, Chile, Philippines, Finland, France, Gabon, Germany, Greece, Italy, Mexico, the Netherlands, Portugal, Russia, Spain, Turkey, Ukraine, UK and USA. Such a great mixture made the course very exciting, giving enriching exchanges from different cultural points of view. The school teachers were top researchers in each of the subjects taught. The lectures were dynamic, creating an integrative atmosphere where scientific challenges were exposed and discussed. The opportunity to exchange and discuss scientific questions with leading scientists was of great value.

The course consisted of lectures on chemostratigraphy, magnetostratigraphy, biostratigraphy, Milankovitch theory, cyclostratigraphy and probabilistic age modeling. All of the lectures were complemented with new (or developing) software addressing biostratigraphic correlation, developing age models, cyclostratigraphic studies, and probabilistic age modeling. In addition, we had a practical exercise, called the "Virtual Ship" (*below*) simulating the analysis performed offshore on a research vessel and onshore laboratories (*e.g.* core description, analysis of the physical properties of the sediments and biostratigraphy).



Every day after lunch, participants presented their own research to the audience. This allowed us to find out about the striking topics that the young researchers are working on. On the last day we concentrated on learning how to write an IODP proposal. After the lecture we had a discussion during which

fantastic ideas quickly emerged, confirming that many of the discussions during the summer school were fruitful, and also that a collaborative and enthusiastic atmosphere had been created.

We visited the oil museum of Wietze (Lower Saxony), where extraction of crude oil started in the 17th century. The oil field of Wietze is considered to be one of the first to drill a borehole for extracting oil in the world. The experience contributed to expanding our perspective of drilling techniques and methodologies onshore.



We thank the organisers of the school: Prof. Dierk Hebbeln, Prof. Michal Kucera, Prof. Heiko Pälike and Dr. Ursula Röhl. We are also very grateful to all the lecturers that took part in the summer school, some of them coming from really far away. We also acknowledge the technicians and staff from MARUM, and also all the students who contributed to such a pleasant stay in Bremen.

As a result of attending such lectures and practical exercises, we have a greater understanding of the study of sediment cores. The multidisciplinary approach to the study of cores covered during the summer school also provides more awareness on the methodological pitfalls and how to solve them. The introduction to new and unreleased computer software gave us new points of view on methodologies and useful tools that will help us with data analyses for our own research. The IODP Virtual Ship training gave us experience of the work carried out during IODP expeditions, in which most of us hope to participate in the near future.

Luis Valero Montesa, University of Barcelona, and Ariadna Salabarnada Roset, IACT CSIC-University of Granada