



## **EDUCATION AT SEA – EDUCATION FOR THE SEA: MESSAGES FROM THE OSTEND «OCEAN SCHOOL 010» MEETING**

Jean-Pierre Henriët<sup>1</sup>, Willy Baeyens<sup>2</sup>, Jan Seys<sup>3</sup>, Andres Rüggeberg<sup>1</sup> and the participants of the Ostend ‘Ocean School 010’ meeting

<sup>1</sup>*Ghent University, Renard Centre of Marine Geology, Belgium*

<sup>2</sup>*Free University of Brussels, Department of Analytical and Environmental Chemistry, Brussels, Belgium*

<sup>3</sup>*Flanders Marine Institute, VLI, Belgium*

E-mail: [jeanpierre.henriet@ugent.be](mailto:jeanpierre.henriet@ugent.be)

### **Abstract**

The ‘Ocean School 010’ meeting convened in Oostende February 16-17, 2010 under the auspices of the Committee of Oceanology of the Royal Academies for Science and the Arts of Belgium and with the cooperation of VLIZ, the Flanders Marine Institute. Key questions addressed were (1) are we providing the right marine scientists and engineers, with the right profile, both to Science and Industry, and if not, how can we take action, and (2) how can we further promote “education at sea” and “education for the sea”.

In a first session, various delegates and stakeholders conveyed the vision of Industry and of Academia on the competences expected from young scientists graduating as MSc in Ocean Science programmes. The second session provided an overview of graduate programmes in particular in the “Hanse World” of NW Europe and hinterland, bracketed by the venues of the two major international meetings in ocean science, policy and education in 2010: the IOC50 conference in St. Petersburg and the EurOcean 2010 conference in Oostende. The overview, which was not meant to be comprehensive, already revealed a rich spectrum of complementary opportunities. A particular attention was paid to the consolidation and development of possibilities of training at sea, a crucial component of any education towards Ocean Science and Technology.

A full half day session was devoted to the discussion of the strategy and action plan, along different tracks: (1) enhancing cooperation between Ocean Schools, with a possible NW European pilot project in the “Hanse World” from Ostend to St. Petersburg and hinterland - *from Secondary School to Doctoral School*, (2) the learning of the Governance of the Sea, (3) the learning of Biodiversity, (4) integrating vocational and academic education for the Sea - *Academia-Industry Partnership* (5) European Coastal Stations - *windows on the sea*, (6) Floating University - *past and future*, (7) mining of Museum collections



and Data centres for Ocean Science and Education, and (8) Ocean core science literacy – *towards a Core Science Academy*.

## **CAPACITY DEVELOPMENT THROUGH TRAINING AT SEA: HISTORY AND LESSONS LEARNED FROM THE LAST 20 YEARS**

Alexei E. Suzyumov

*Intergovernmental Oceanographic Commission of UNESCO*

### **Abstract**

Shipboard training has always been on the IOC agenda. However throughout the years the approach has changed from occasional, non-systematic training provided mostly in the use of modern oceanographic equipment to long-term capacity development programs of training in marine science.

The Training-through-Research (TTR) endeavor started by UNESCO in 1991 at the initiative of Moscow State University and became an IOC program within TEMA in 1995 (Resolution XVIII-14). The founding group of researchers succeeded in combining the two seemingly (at that time) uncompromising needs for education and cutting-edge research, and formulated the concept that is reflected now in the program title. Twenty years ago this approach was innovative and challenging, and no other program of the same nature existed in Europe or elsewhere. Since that time the TTR approach has been accepted globally and applied, fully or partially, in some other endeavours (like the IOC/HAB program or even announced at the site of 'Institut national de recherche en informatique et en automatique Paris-Rocquencourt').

The annual TTR cycle as fully established by the year 1992, includes: (i) preparation of an international cruise by the TTR Executive Committee; (ii) TTR cruise that combines an extensive research programme, on-the-job training and daily lectures and seminars for trainees; (iii) after the cruise - exchange of the participants for data processing and analyses; (iv) six months after the cruise, a post-cruise conference to present and discuss results of on-going analyses and interpretation of data, and to co-ordinate with other regional studies; (v) preparation of scientific reports and publications. From the very beginning it was decided to concentrate research efforts at the most intriguing scientific issues. This created the basis for the TTR success including in training in breaking-through science. Many of the TTR research results are pioneering indeed.

TTR has never been working in isolation. Its proven flexibility and excellent research results attracted a considerable number of eminent scientists who came on board with their scientific ideas, research targets,