

## **OCEANOGRAPHY FOR EVERYBODY**

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We believe that public outreach is one of our duty toward the society. For this reason in 2008 we made some activities in order to popularize the oceanography and the CNR contribution to the study of marine carbon cycle. These activities were carried out in the framework of the European IP Project SESAME (Southern European Seas: Assessing and Modeling Ecosystem changes), because dissemination of scientific knowledge is an important objective of this project. The oceanographic cruises represent a very good occasion to achieve this goal. For this reason two activities were planned during one of the SESAME cruises: (1) the creation of a film documentary and (2) the contact with primary schools in order to explain the children how oceanographers work and the role of CNR in international projects that study marine carbon cycle and climate change.

### **Film documentary**

The film director "Lorenzo Cioffi" directly participated in the SESAME-IT4 cruise, on board the CNR R/V "Urania", in order to take shots to create the documentary: "Travels on board the Urania". Lorenzo writes: "Many documentaries disseminate the results of scientific research. The goal of this film is to tell about the way to get these results. With the documentary "In viaggio sull' Urania" I would like to describe the life on board, the personal relations between the team, the fortuitous circumstances, the unexpected events, the choices of the oceanographers, in order to give an idea of the oceanographic research. In the documentary, each researcher is a character which will give its specific view on its job and on the general background of the cruise. In other words the oceanography will become "embodied" in the researchers. The 28th of October 2008 this documentary was presented to the "Festival of Science", in Genova (Italy). It also received a review on the "Almanacco della Scienza", the CNR twice-monthly magazine (11 February 2009).

### **Schools**

Before the S-IT4 cruise I contacted the primary schools of Empoli (FI), in order to present the SESAME project and the oceanography in 9 classrooms of 9-10 years old children and to invite them to follow the cruise through the SESAME web site. During the cruise we realize also an experiment to show the effect of sea-pressure.

During the first meeting with the classrooms I brought a big sheet of white paper and I asked the children to draw or write all the words coming in their mind if they thought about the Sea.



Finally, we made a big black blot in the sheet of paper, this should represents the human impact on the marine ecosystem.



Fig. 4: The “black blot” in the Sea!

Then I introduced the oceanography and the work made by the Italian oceanographers. I showed the children the CNR research vessel “Urania” and I informed them about the cruises and the possibility to follow them through the SESAME web site. I told them about the film we were going to create. They were very interested and enthusiastic. I stayed more than 2 hours in each classroom, as they had so much questions and curiosities!!! I really enjoyed myself staying with them!





Fig. 5: I'm telling the Children about SESAME

Finally, I gave them two cups and they signed both for the pressure experiment.



Fig. 6: Children are signing the cups

Before the cruise I collected in each classrooms a lot of drawings and questions that the children have prepared for SESAME researchers. I brought all this material on board together with 9 signed cups (one for each classroom).



Fig. 7: Final part of the first meeting on board, in which we were looking at the drawings made by Italian primary schools children for the SESAME scientists

Every day during the SESAME cruises one of the researcher on board wrote a diary in which the activities of the day together with some answers to the children questions were reported. This diary is visible at the link: <http://www.sesame-ip.eu/public/follow-the-cruises><http://www.sesame-ip.eu/public/follow-the-cruises>.

### **Pressure experiment**

During the cruise, in order to realize the pressure experiment, proposed to the classrooms, we tied the styrofoam cups, to the Rosette for the deep casts (fig. 9). In the photos you can see the cups before the cast and the cups tied to the Rosette.





Fig. 8: The styrofoam cups signed by the children before the cast



Fig.:9 The cups are tied to the Rosette, before the deep cast

We sent the cups at 2800 m depth and in the fig. 10 you can see the effect of the pressure!



Fig. 10: the cups are recovered after the cast, the effect of pressure is clearly visible

After the cruise I returned in each classroom to tell the children about the expedition and to show them some photos and movies about the cruise. I brought them the cups that we sent to 2800 m depth during the cruise, to show them pressure effect. They were really surprised!



Fig. 9: Children are experimenting the effect of Pressure on the cup!





Fig.11: Some of the children involved in these activities