

**FIRST ROMANIAN BLACK SEA SESAME CRUISE (S-RO1)**  
**Scientific activities on board of R/V “Mare Nigrum”**

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During the first Romanian Black Sea SESAME cruise, on board of the Romanian R/V “Mare Nigrum”, CTD measurements covered the main physical parameters of water column in each station (pressure, temperature, salinity, oxygen, fluorescence and beam attenuation). pH, dissolved oxygen and sulphide in water samples were also measured. The water samples for the nutrients analysis were preserved in the freezer. In order to measure the chlorophyll *a*, different volumes of water were filtered and preserved in the freezer. The oxygen samples were processed on board using the Winkler method.

Biological activities done during the cruise: the research team collected 124 biological quantitative samples, 81 samples of phytoplankton, 29 – zooplankton and 14 of benthos. Water samples for phytoplankton diversity and abundance were collected at each standard depth in plastic bottles of 1000 ml. Zooplankton sampling was made with a Nansen net vertically tracked through water at each standard depth (25 – 0 m, 50 – 25 m, 100 – 50 m, 200 – 100 m). Macrobenthos samples were collected from 4 stations with a Van Veen grab (0.14 m<sup>2</sup> sampling surface). For meiobenthos samples was used a plastic tube/mini-corer.

Water samples (0.5 l), for salinity post-cruise calibration, were collected in each station, from each sampling level.

The sedimentological investigations were focused on specific activities, such as recovery of continuous undisturbed sediment columns (as cores), for the assessment of pollutants, supplying litho-bio-stratigraphic detailed observations and descriptions, X-ray imaging and obtaining samples for laboratory analyses (grain size, chemistry, biology). The SESAME section covered the northwestern Black Sea major depositional systems, as Danube Delta Front (Station S-RO1-001) and Danube Prodelta (Station S-RO1-002), the sediment starving continental shelf (S-RO1-003), the shelf break and continental slope (S-RO1-004 and S-RO1-005), the submarine Danube fan complex (S-RO1-006 and S-RO1-007) and the abyssal area of the sea. Preliminary descriptions of the lithology and other sedimentological aspects were made on board. Photo and X-ray images were made.

The measurements of currents velocity were realized with an Acoustic Doppler Profiler Son-Tek between 14 m and 100 m water depth.

The acquisition of the bathymetric data was made using a Sea Beam 1050 multibeam sonar. In the SESAME project were measured ~ 250 km of bathymetric profiles between 11 m and 2148 m water depths, the profile widths varying 60 m and 3000 m (according to the water depth).

We therefore can conclude that the objectives of the SESAME Romanian first cruise were successfully met, according to the contract DoW.

**Contributing institutions in field activity**

<b>Full name of organization</b>
<b>Official members in SESAME Project</b>
Institute of Marine Geology and Geoecology - GEOECOMAR
National Institute of Marine Research and Development - NIMRD
<b>Invited on board</b>
“ <i>Ovidius</i> ” University– Constanta – Faculty of Biology
University of Bucharest – Faculty of Geology and Geophysics
Maritime Hydrographic Directorate (DHM)