**Italy**

**Cruises, sampling activities**
- Gabriele Capodaglio (DAIS, Ca’ Foscari University, Venice) and Clara Turetta (IDPA-CNR, Venice)

**Ross Sea-Antarctica.** Seawater samples were collected during the XXVII Italian Expedition in Antarctica (R/V Italica) in the Ross Sea to determine trace elements (Figure 3). The sampling cruise was funded by the Italian National Research Program in Antarctica (PNRA). Seawater were collected using a rosette equipped by 24 Niskin bottles (12 L) and 20L GO-FLO bottles for comparison. Samples were immediately transported in the mobile clean (class 100) laboratory available on board, filtered and collected in clean LDPE bottles, and stored frozen at \(-20^\circ C\) for transport to Italy without any additional treatment.

All samples will be analysed at IDPA-CNR/Ca’ Foscari University laboratory to determine trace element and Rare Earth Elements (REE) concentrations by ICP-SFMS (Element2, Finnigan-MAT, Bremen, Germany) after samples dilution and acidification following the methodology developed in our laboratory.

**Figure 3:** Sampling sites of XXVII PNRA oceanographic survey. The analyses will be performed in the next months. Results of trace elements determination from previous sampling survey in the Ross Sea have been published.

- Paolo Montagna (ISMAR-CNR, Bologna)

**Mediterranean Sea.** Seawater samples for Nd isotopes were collected during the cruise Medcor (2009, R/V Urania) in the Siculo-Tunisian Strait and cruise Arcadia (2010, R/V Urania) in the Southern Adriatic Sea (Figure 4). Both cruises were led by Marco Taviani (ISMAR-CNR, Bologna) and funded by the Italian National Research Council and the FP7 projects Hermes and Hermione. The cruises were primarily devoted to sampling seawater and biogenic carbonates for proxy calibration.

**Figure 4:** locations of all the Mediterranean stations with \(\varepsilon Nd\) data (red circles: stations with published values; yellow circles: cruises Medcor in the Siculo-Tunisian Strait and Arcadia in the Adriatic Sea; Montagna et al., unpublished data).
Ten litres filtered (AcroPak 500 cartridge) seawater samples were drawn into pre-cleaned cubitainers from 12L Niskin bottles attached to the ship’s rosette, acidified to pH = 2, sealed with parafilm and stored with double bag before sending to the laboratory.

All the seawater samples were analysed at LDEO (Columbia University) as part of the Marie Curie IOF project coordinated by Paolo Montagna in collaboration with Prof. Steve Goldstein (LDEO, Columbia University) and Dr. Norbert Frank (LSCE, Gif-sur-Yvette). Neodymium isotopes were measured as NdO$^+$ on a Micromass Sector 54-30 thermal ionization mass spectrometry by dynamic multicollection after Nd pre-concentration with ferric hydroxide and extraction using Eichrom RE-spec resin and $\alpha$-HIBA acid and cation resin.

• Clara Turetta (IDPA-CNR, Venice) and Gabriele Capodaglio (DAIS, Ca’ Foscari University, Venice)

Vietnam Lagoons. Seawater and sediment samples were collected from several Vietnamese lagoons in the framework of a Vietnamese-Italian Cooperative Project. Water samples were collected using a metal free pump and immediately filtered by single use filter (PTFE membrane, pore size 0.20 μm), acidified (2% with ultrapure HNO$_3$) and stored refrigerated until the analysis. Sediment samples were kept frozen until the arrival in the laboratory, then they were freeze-dried and homogenized before analysis.

All the analyses were performed at IDPA-CNR/Ca’ Foscari University laboratories to determine trace element and Rare Earth Elements (REE) concentrations by ICP-SFMS (Element2, Finnigan-MAT, Bremen, Germany) for water analysis and by ICP-QMS (Agilent 7500) for sediment analysis.

• Clara Turetta (IDPA-CNR, Venice)

Adriatic Sea. Seawater samples were collected along the north-western coast of the Adriatic Sea, from Adige River mouth to Venice Lagoon, during a seasonal sampling survey in the framework of Q-ALiVe Project funded by the Regione Veneto (Italy, L.R. 15/2007) to recognise the input from rivers and lagoon. Samples were preserved refrigerated until the arrival in laboratory where were filtered in the clean-room (Class 100) of IDPA-CNR, diluted and acidified for analysis.
Samples were analysed to determine the concentration of trace elements and REE by ICP-SFMS (Element2, Finnigan-MAT, Bremen, Germany) following the methodology developed in our laboratory.

- Clara Turetta (IDPA-CNR, Venice) *Artic Sea (Ny Alesund)*. Seawater samples were collected in the Kongsfjorden (Ny Alesund, Norway) in the framework of PRIN09 Project, funded by Italian Ministry of Education, University and Research (MIUR). The sampling survey was devoted to characterise different sites with different glacial run-off and antrophic impact. The same sites will be re-sampled in August and the samples will be analysed to determine the REE content. Sample analyses will be performed by means of ICP-SFMS (Element2, Finnigan-MAT, Bremen, Germany) after dilution and acidification following the methodology developed in our laboratory.

**Meetings**

- Paolo Montagna (ISMAR-CNR, Bologna) attended the GEOTRACES Mediterranean Planning Workshop, which was held in Nice (France) during the 4-6 October 2010. Paolo Montagna presented the Nd isotopic values for seawater and biogenic carbonates collected in the Mediterranean Sea.
- Andrea Spolaor (IDPA-CNR, Venice) attended to the Liege Colloquium, Liege (Belgium), 2-6 May 2011.
- Paolo Montagna (ISMAR-CNR, Bologna) attended the GEOTRACES Mediterranean Cruise Planning Workshop, which was held in Toulouse in September 2011 and discussed the possibility to submit a proposal to CNR to allocate ship time with R/V Urania for a GEOTRACES transect in the Central Mediterranean Sea.

**Publications**


Submitted by: Clara Turetta