



**Workshop IODP-Italia “Lo stato delle proposte di perforazione nell’area mediterranea”**  
*Scientific Drilling in the Mediterranean Sea*  
Roma, 15-16 gennaio 2018

**Abstract**

***I giovani ricercatori italiani nell’ambito dei programmi internazionali di perforazione scientifica***

**Titolo dell’abstract**

**Millennial scale climate variability during Marine Isotope Stage 19: calcareous nannofossil, alkenone and planktonic foraminifera evidence from Balearic and Ionian Basins**

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*Key words:* MIS 19 Termination IX, Western Mediterranean ODP Site 975, calcareous plankton, alkenones, millennial - submillennial scale climate variability

**Argomento della ricerca nella perforazione scientifica**

The research aim is to study Marine Isotope Stages (MIS) 19 on ODP Site 975 (Balearic Basin) and Montalbano Jonico section (Ionian Basin) in order to collect multidisciplinary data on its climate variability at orbital-suborbital time scale. High resolution (200 years) quantitative data on molecular biomarkers, coccolithophore assemblages and planktonic foraminifera are acquired and integrated to obtain valuable paleoclimatic and paleoceanographic informations.

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The study of MIS 19 (ca 0.78 Ma), as the best analogue of MIS 1, is of particular interest for scientific community since it offers the opportunity to explore the natural length of the current interglacial and the dynamics of glacial inception in absence of human action. The analogy between MIS 19 and MIS 1 especially relies on their close astronomical configuration of orbital parameters (Tzedakis et al., 2012; Yin and Berger, 2015) and by a similar climate evolution between Termination IX (TIX) and Termination I (TI) based on distinct changes in calcareous plankton and pollen assemblages (Maiorano et al., 2016).

New data on calcareous nannofossils, biomarkers (alkenones) and planktonic foraminifera are acquired in the Ocean Drilling Program Site 975, located on the western Mediterranean, and in the onland marine section of Montalbano Jonico (Basilicata), in order to understand the response to environmental and climate changes starting from the interglacial inception of MIS 19. The high temporal resolution of our data (about 200-400 years) provide additional evidence that TIX was characterized by high climate variability





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which has not been previously identified in other middle Pleistocene glacial-interglacial transitions and could be associated to millennial scale climate evolution of TI and Holocene inception.

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