



## 6<sup>th</sup> YOUNG GEOMORPHOLOGISTS' DAY

Geomorphology for Society  
*from risk knowledge to landscape heritage*

Cagliari, 28-30 September 2015

# PALEOENVIRONMENTAL RECONSTRUCTION OF THE SANT'IMBENIA AREA DURING THE EARLY-MID HOLOCENE (SARDINIA, ITALY)

Giorgia RATTO <sup>1</sup>, Rita T. MELIS <sup>1</sup>, Francesca MONTIS <sup>1</sup>

<sup>1</sup> *Università degli Studi di Cagliari, Dipartimento di Scienze Chimiche e Geologiche, giorgia.ratto@gmail.com*

The area of Sant'Imbenia is located in the North-Western coast of Sardinia and more specifically in the Porto Conte bay delimited by the calcareous promontories of Capo Caccia at West and Punta Giglio at East. Pleistocene slope deposits, with interbedded beach sediments (Tyrrhenian, MIS5e), filled the karst cavities developed in the carbonate Mesozoic substratum. High cliffs, subject to karst and marine processes, characterize both promontories. In the cliff walls, the relict tidal notches, that have a decreasing height from East to West, show that Sant'Imbenia area is a subsidence zone. In the pocket beach of the big *ria* of Porto Conte, there is a low and sandy intermediate beach affected by marine erosion processes. Given this geomorphic setting, Porto Conte Bay has always represented a safe landing place since Prehistoric times, as shown by Bronze Age and Roman Age settlements closed to current shoreline, like the Nuragic village (Bronze Age) of Sant'Imbenia, that was a midpoint of cultural and commercial exchanges from Middle Bronze Age to Early Iron Age, and the Roman villa of Sant'Imbenia

This paper reports on the preliminary results of a multidisciplinary research aimed at the paleoenvironmental reconstruction of the Sant'Imbenia area during the Early-Mid Holocene. The geomorphological analysis, the stratigraphic and paleontological studies of three cores and the <sup>14</sup>C dating allowed to underline that during Holocene, this area represented a transitional coastal environment. This was characterized by wetlands with brackish lagoon than evolved into marshland during the Bronze Age until the Roman Period.

This is also supported by the presence of typical malacofauna of freshwater and brackish environment (*Planorbis Corneus*, *Hydrobia* sp., *Darwinula stevensoni*), and rare items of marine environment like *Propilidium Exiguum* in grey marsh deposits.

