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## **Fishing Isotopes: The contribution of Ichthyoarchaeology and ISotopic analyses in the study of the Iberian Medieval and Modern Age fisheries (6th/17th CE)**

Arturo Morales-Muñiz, Zohar Irit, Laura Llorente Rodríguez, Leïa Mion, Carlos Fernández Rodríguez, María José Luciáñez-Sánchez, Marta Díaz-Zorita Bonilla, Tatiana André, Eufrasia Roselló-Izquierdo

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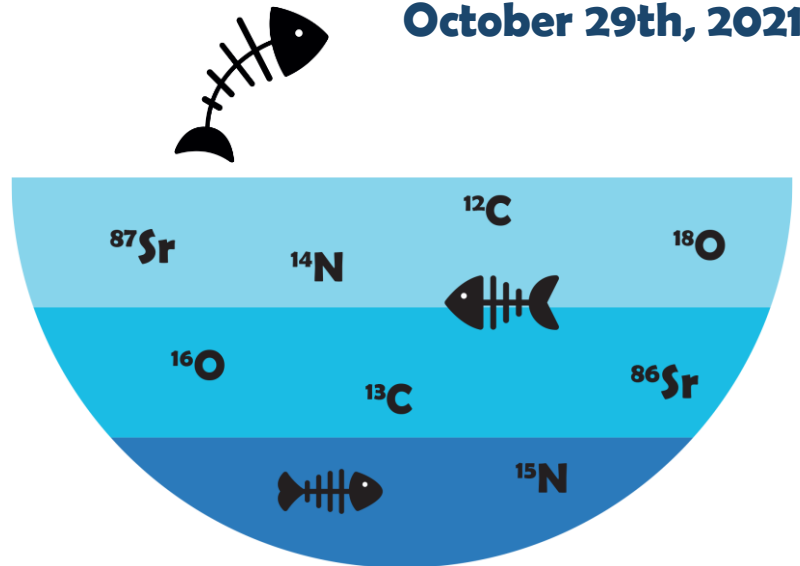
# WORKSHOP

# SEA, FISH & SUN



Archaeological & isotopic approach of aquatic resources acquisition

October 29th, 2021



## ABSTRACT

**Fishing Isotopes: The contribution of Ichthyoarchaeology and Isotopic analyses in the study of the Iberian Medieval and Modern Age fisheries (6th/17th CE)**

**Arturo MORALES-MUÑIZ , Irit ZOHAR, Laura LLORENTE-RODRIGUEZ, Leïa MION, Carlos FERNÁNDEZ-RODRIGUEZ, María José LUCIÁÑEZ-SÁNCHEZ, Marta DÍAZ-ZORITA, Tatiana ANDRÉ, Eufrasia ROSELLÓ-IZQUIERDO**

This project is the first systematic analysis of the Iberian Peninsula fisheries in the millennium spanning from 6th/7th CE until 17th CE addressing the issues through the analyses of archaeological fish remains. This time window allows one to assess the diagnostic features of fish assemblages from Byzantine, Visigoth, Muslim and Christian deposits from a cultural perspective never before attempted. From a spatial standpoint, a strategic selection of sites allows one to assess whether latitude and longitude (i.e. Atlantic vs. Mediterranean) played significant roles in the shaping of the catch, an assessment that will be pursued further at the level of the paleotemperature and catching areas of the sea as inferred from  $18\text{O}/16\text{O}$  and  $87\text{Sr}/88\text{Sr}$  values. Four aspects deemed key for determining the nature of these fisheries will be explored: (a) the nature of the catch as inferred from the taxonomic composition and estimated weights of the fish assemblages, (b) the local vs. foreign and (c) the seasonal vs. year-round nature of the fishery as inferred on the basis of isotopic analysis of strontium and oxygen. Lastly (d) the presence of processed and stockfish will be explored through fine screening and analyses of the sediments from presumed storage buildings in a search of bioindicator proxies, specifically those insects and mites that are pests of these stored productions. A substantial part of the identifications in two of the selected sites will focus on scales. The isotopic analyses will, in turn, focus on the gilthead (*Sparus aurata* L.) on account of its availability in Iberian fish assemblages and will require the analysis of recent specimens to build a referential database that will serve as the baseline to interpret the archaeological specimens and a tool for future analysis of archaeological fish collections, and for environmental and fisheries biology research.

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