

PhD Project 2025



The end of the Messinian salinity crisis and how to repopulate a marine basin

The Messinian Salinity Crisis was the greatest paleoenvironmental perturbation in the Mediterranean Sea, and took place around 5.5 million years ago, when the marine connection to the Atlantic Ocean was restricted, leading to drastic reduction in biodiversity and the complete restructuring of the marine biota. After the Messinian Salinity Crisis, the Mediterranean–Atlantic gateway opening at Gibraltar initiated the reconnection to the global ocean, allowing for the influx of marine species, which took place within a few months to years. However, this influx did not lead to the expected, also rapid (re)establishment of populations, an observation which can only be explained by the lack of favorable paleoenvironmental conditions in the Mediterranean basin. The aim of this PhD project will be to investigate the establishment of different marine taxa in a previously hypersaline basin. The student will employ statistical models to predict the distributions of the targeted taxa, and explore potential trophic relationships established in the marine ecosystem.

This thesis will be supervised by Konstantina Agiad, Marta Coll and Daniel Garcia-Castellanos, and conducted at the Institut de Ciències del Mar in Barcelona.

Expressions of interest (with CV including Bachelor grade) should be sent to konstantina.agiadi@univie.ac.at.