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Scientific networking to address the causes, timing, emplacement mechanisms, and consequences of the Messinian Salinity Crisis

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The origin of the Mediterranean salt giant is linked to an extraordinary event in the geological history of the Mediterranean region, commonly referred to as the Messinian Salinity Crisis (MSC). After 45 years of intense yet disunited research efforts, the international scientific community at large faces a unique opportunity to access the deep and marginal basins Messinian depositional successions in the Mediterranean through scientific drilling, namely through the Integrated Ocean Discovery Program (IODP) and the International Continental Drilling Program (ICDP).
Scientific activity to promote scientific drilling offshore and onshore is in progress under the broad umbrella of the Uncovering a Salt Giant' IODP Multi-Platform Drilling proposal, that has generated the Deep-Sea Records of the Messinian Salinity Crisis (DREAM) site-specific pre-proposal for riserless drilling on Messinian marginal basins and the related ICDP-IODP amphibious initiative Investigating Miocene Mediterranean- Atlantic gateway exchange (IMMAGE).
Scientific networking has begun to establish a broad cross-disciplinary research community embracing geology, geophysics, geochemistry, microbiology, and paleoclimatology. Formal networking activities represent an opportunity for the scientific community to share objectives, data, expertise and tools with industry since there is considerable interest in oil and gas exploration, and consequent hazards, targeting the Mediterranean's deep salt deposits. With the acronym MEDSALT, we have established two networks working in close cooperation:
(1) COST Action CA15103 Uncovering the Mediterranean salt giant (MEDSALT) (https://medsalt.eu/) is a 4-year long network established in May 2016 comprising scientific institutions from 28 states. This COST Action will provide an opportunity to develop further our knowledge of salt rock formation addressing four overarching scientific questions: a) What are the causes, timing and emplacement mechanisms of the Mediterranean salt giant? b) What are the factors responsible for and the socio-economic consequences of early salt deformation and fluid flow across and out of the halite layer? c) Do salt giants promote the development of a phylogenetically diverse and exceptionally active deep biosphere? d) What are the mechanisms underlying the spectacular vertical motions inside basins and their margins?
(2) ANR Project 'Uncovering the Mediterranean Salt Giant' (MEDSALT) aims at establishing networking action to prepare an Integrated Ocean Discovery Program (IODP) full proposal to drill the Mediterranean Salt Giant with the R/V JOIDES Resolution. This 18-month long network consists of a core group of 22 scientists from 10 countries working in close cooperation with the brother COST Action MEDSALT.
These inter-sectorial and multinational cooperation networks comprise a critical mass of both experienced and early-career researchers from Europe and beyond. The goal will be achieved through capacity building, researchers' mobility, skills development, knowledge exchange and scientific networking.