



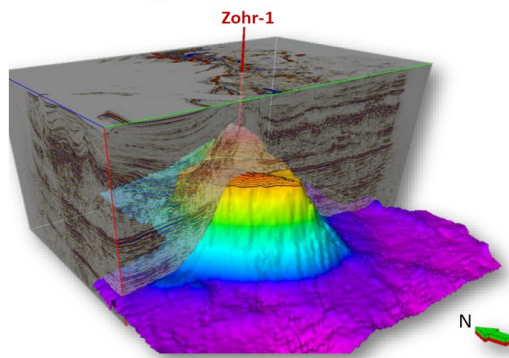
The Cyprus SPE Section/AAPG-SPE Student Chapter cordially invite you to:

## South-Eastern Cyprus Petroleum System Fieldtrip

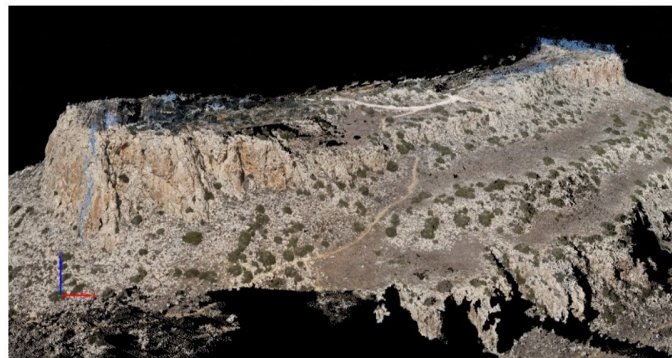
### Abstract

The discovery of the giant Zohr Field in 2015 (30 Tcf of gas initially in place) and subsequent offshore discoveries in the Cypriot exclusive economic zone has revolutionized the natural gas prospectivity of the Levantine Basin (Nikolaou, 2016; Cozzi et al., 2018). The greater Eratosthenes seamount region, spanning the area from onshore southern Cyprus to the distal Egyptian Nile delta, in particular, was an overall buoyant region that hosted the deposition of persistent carbonate systems from the Cretaceous to the Miocene, including potential target shallow-marine buildups, preferentially growing on top of pre-existing structural highs.

Zohr: a large underwater carbonate reef



Outcropping carbonate reef



**Figure 1** Isolated carbonate platforms of the Eastern Mediterranean. Left image: Zohr (from Cozzi et al., 2018); Right: Miocene reef outcrop in the island of Cyprus (from Patruno et al., 2021)

Onshore Cyprus, the flanks of the inverted ophiolitic core of the Troodos massif are overlain by uppermost Cretaceous to Cenozoic autochthonous sedimentary rocks ('circum-Troodos succession'), which are similar to the offshore sedimentary successions. Some of these outcropping carbonate units are analogous to the reservoir (only the Miocene part), source and seal of the offshore Zohr play.

In this fieldtrip, we are going to observe the circum-Troodos succession with a particular emphasis on the petroleum system, i.e., units representing clear source, reservoir and seal rocks. The part of the circum-Troodos carbonate succession analysed in this fieldtrip comprises: (1) Palaeogene-age white pelagic marls and cherts, locally interbedded with cherts, belonging to the Lefkara Formation; (2) Miocene-age yellowish marls, chalk and calcarenites belonging to the Pakhna Formation; (3) Messinian-age gypsum and gypsiferous marls belonging to the Kalavassos Formation. The Miocene-age Pakhna Formation, in particular, begins and ends with the deposition of shallow-marine patch reef units (fore-reef, bioherms, biostroms and basal facies), known as Terra Member at the base (lower Miocene) and Koronia Member at the top (upper Miocene), which are partly equivalent to the Zohr-like reservoir buildups drilled offshore (Figure 1). Some of the locations that will be visited during this fieldtrip will be: Cape Greco, Aradippou, Agios Theodoros, Lefkara and Larnaca.



### Speaker's bio:

Dr Stefano Patruno's areas of expertise include geology, sedimentology, stratigraphy, seismic interpretation and petroleum geology. Having earned his BSc (cum laude) in Geological Sciences in 2007 from the University of Chieti (Italy) and MSc (distinction) from UCL (UK), Stefano pursued a PhD at Imperial College London (UK) on the sedimentology and seismic stratigraphy of subsurface deltaic sand bodies and clinoforms, which resulted in several high-impact international publications. Since 2013, Stefano has been working in the Oil and Gas exploration sector (both operators and service companies) as a geoscientist, senior geologist and consultant, in subjects including 2D and 3D seismic interpretation (from crustal scale to reservoir scale), exploration, prospect definition, well proposals and new ventures, particularly focusing on the North Sea, Africa and the Mediterranean. At the same time, he kept pursuing his academic interests as an independent researcher, resulting in more publications in sequence stratigraphy, sedimentology, stratigraphy, palaeoenvironments, tectonics and oil exploration, and in new applied play concepts. Stefano is currently the Chief Editor of a Special Publication of the Geological Society of London (Cross-border petroleum geology in the North Sea) and a guest associate editor of Basin Research.

The field trip will be delivered in English and is open to the public. Please save the details:

**Date:** Sat 16 Oct, 2021; **Gathering Point:** [Research & Tech Bld, U of Nicosia](#) @ 8:00am