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The secret Life of brines: Deep-sea brines and their inhabitants

The Red Sea harbours multiple deep-sea anoxic brine pools along its central axis. They are considered to be some of the harshest environments known on our planet due to the conjugation of extreme salinity, increased temperature, very high concentration of heavy metals, high pressure and anoxia. Each brine pool provides a unique combination of physical-chemical conditions, and this variety of ecological niches is further enhanced by the formation of steep gradients along the brine-seawater interface. Such unique settings make them privileged locations for novel discoveries relevant to Astrobiology and for exploring the diversity and resilience of life.

This seminar will present an overview of the latest findings, current challenges, and future perspectives when studying the biology of these unusual extreme environments. Despite the recent increase in research, most of the brine-pools still remain unstudied and unsampled so further discoveries can be expected.