

## **Microbially Induced Sedimentary Structures from a Hypersaline Desert Playa: A First Look**

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Hypersaline ecosystems are known for harboring diverse microbial communities comprised of all three domains of life and tend to yield novel species of microorganisms. These ecosystems are globally distributed across a broad range of both aquatic and terrestrial environments, and as such, hypersaline soils and sediments have been largely neglected in microbial ecology and biogeochemical studies. This is especially true for hypersaline playa environments, which are remnants of ancient lake basins. Across the globe, numerous large paleolakes from the late Pleistocene/early Holocene have gradually transitioned to modern day hypersaline playas such as the Chott el Gharsa of Northern Africa, the Salar de Uyuni of Bolivia, Death Valley in southern California and the Great Salt Lake Desert in northwestern Utah. Often, these paleolake basins maintain closed groundwater systems that allow for continual wetting of the playa sediments and hence provide a supporting environment for modern day microbial ecosystems that produce microbially induced sedimentary structures (MISS). Here we will present a first look at the MISS discovered in the Pilot Valley Basin of the Great Salt Lake Desert, Utah. We will show the diversity of these structures at both the macro and micro scale and discuss the plausible connection between these biogenic fabrics and the authigenic calcium carbonates and other evaporites that make up the complex sediments in this hypersaline playa.