

Physical Properties of Coral and Microbialite Facies on the Mozambique Shelf

Offshore Mozambique, a coral reef that grew during the Last Glacial Maximum now lies drowned at ~95 m depth. CSL cores through it recovered coral framestones, laminated microbialites, and carbonate sands that never saw burial diagenesis. No downhole logs exist — the laboratory is the only way to learn how these rocks behave.

What you will do: Prepare core plugs and measure porosity (helium pycnometry), P- and S-wave velocity under simulated in-situ pressure (AutoLab 1000), and electrical resistivity — then quantify pore structure from thin sections and link it to the measured properties.

Why it matters: A first rock-physics framework for lowstand reef and microbialite facies: seismic ties without logs, and better prediction of carbonate reservoir and aquifer properties worldwide.

Skills you gain: Hands-on petrophysics, carbonate petrography, quantitative image analysis, and data interpretation within an industry-funded consortium (CSL Industrial Associates).

