



Coral survivorship, performance, and biodiversity enhancement using 3D printed ceramics in coral restoration

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Abstract

Coral reef restoration is accelerating around the world - and not a moment too soon. Mass coral bleaching, epizootic diseases, and ongoing habitat destruction from local and global factors are accelerating the losses of reefs around the world. The time for action is now. In this talk, I will present the work of our restoration company, Archireef, which was spun-off from university research. Archireef combines an ancient biocompatible material - ceramics - with advanced additive manufacturing through 3D printing. By leveraging financing from industry - we are able to achieve rapid results at scale, all over the world. Archireef's scope of services include advanced photogrammetry for monitoring coral health and reef development, eDNA metabarcoding for quantifying biodiversity enhancement, and assessment of ecosystem functions and services towards a site valuation. In doing so, we bridge the divide between conservation and finance towards a nature-positive future.