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Image created in Carysfort Reef,
Florida Keys, USA

Images of Research Competition
University of Alberta

If you build it, will they come?

Semi-finalist (2021)

Coral reefs are dying at an unprecedented rate; so too are the fish reliant on corals for habitat space. Given the erasure of this critical habitat, scientists, conservation organizations, and concerned community members are working hard to restore coral reefs by adding young corals onto reefs. My research seeks to understand what about a restored coral reef is attracting juvenile fish -is it the complex three dimensional structure of its calcium carbonate skeleton or the biochemical composition of the coral's animal tissue? And, in what kinds of environmental contexts are these features important to sustain fish populations?

This study started with developing a new method to create highly realistic artificial corals. Combining inter-disciplinary knowledge from across U of A, I used techniques in engineering, paleontology and visual art to create artificial corals that are cost effective, easily scalable, and are ecologically relevant. These were then deployed onto a coral reef for an experiment - results from which may inform more efficient reef restoration design, and provide insights into fundamental ecological questions around why animals find and stay in certain habitats.