



## ON-SITE BIOLOGY COLLOQUIUM

Friday, 5 Apr 2024 | 4 pm | DBS Conference Room 1

Hosted by Assoc Prof Huang Danwei

Map to Block 53



# Bridging marine ecology and entrepreneurship – the story of Archireef

**By David M. Baker**

*The University of Hong Kong*



### **About the Speaker**

David M. Baker obtained his Ph.D in Ecology & Evolutionary Biology from Cornell University and spent 3 years as a postdoc with the Carnegie and Smithsonian Institutions before joining HKU in 2013. His core research explores the functional significance of nutritional symbiosis – and how mutualisms are disturbed in the Anthropocene. In 2015, he established MarineGEO-Hong Kong to advance our understanding of the interaction between cryptic biodiversity, ecosystem functioning, and environmental health within urbanized seascapes. These efforts have converged on applied science and commercialization. He is the co-founder and Chief Scientist of Archireef, Ltd. a university spin-off that has rapidly expanded from Hong Kong to the UAE. Archireef has had substantial impact on the global stage, with 30+ employees and a portfolio of corporate clients seeking to elevate their environmental profile through science-backed investments in nature. Dr. Baker serves as Director of HKU's Stable Isotope Ratio Mass Spectrometry Laboratory, and is an Associate Director of the Knowledge Exchange Office.

I arrived in Hong Kong in 2013 – at which time the Swire Institute of Marine Science had a coral farm filled with local species. Without space for experiments, we embarked on the first trials of transplanting coral fragments back to the field. My industrious students designed concrete slabs with PET bottle tops and metal threads to allow removing corals for measurements. I predicted the corals were doomed! I was proven wrong. Not only did the corals survive - they thrived – suggesting to me for the first time that coral restoration (even in a highly urbanized seascape) is possible and warranted more effort. From there, several lines of research converged on restoration applications; 1) stable isotope investigations of coral nutrition, 2) revealing the cryptic biodiversity of reef habitats, and 3) evaluating the ecosystem functioning of the seascape. With the development of 3D printed ceramic tiles for reef restoration – we founded Archireef, Ltd. in 2020. Today, Archireef leverages resources from the private sector towards building dynamic marine ecosystems. With 30+ employees across Hong Kong and the UAE, Archireef is not only an early adopter of the TNFD frameworks, we help corporates achieve their ESG and TNFD goals.