

“Advances in coral *in-situ* metabolism of Hong Kong coral communities”

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Date : 28 May 2018

Time: 11:00am to 11:30am

Venue: Meeting Room 2-130, 1/F, Block 2, To Yuen Building

Abstract

Physiological rates of corals have been an object of investigation for a long time and different tools have been developed both for field and laboratory studies. Metabolic *in-situ* measurements enable non-invasive quantification of energy expenditure, making them well suited for measuring both healthy and stressed organisms. The use of new diver-portable respirometers designed to measure coral respiration and photosynthesis by *in-situ* analysis of dissolved oxygen, pH and temperature variations is now under investigation.

Corals living in turbid waters are frequently exposed to acute sedimentation events, such as Hong Kong coral communities. Moreover, they may have not subjected to tissue mortality since they are adapted to low light and increased feeding rates. However, the increase in the frequency and severity of acute sediment stress events in coastal waters provides an additional stress for corals surviving at the edge of their environmental and physiological tolerances. Corals can survive in these marginal reef environments, even with slow growth and physiological rates. Unfortunately, how corals metabolically response to local perturbations (such as bleaching, phytoplankton bloom and hypoxia events) in their natural environment is still poorly understood.

Here we propose tools and strategies to evaluate the coral health by combining classic scientific diving techniques with novel technologies. The aim is to provide a better definition of coral health by integrating the complexity of the coral holobiont with its associated microbes and the co-influence of biotic and abiotic factors in a changing climate scenario.

About the Speaker

Mr Dellisanti graduated in MSc Marine Biology at University of Bologna (Italy) in 2012 with a thesis in collaboration with Laboratoire Oceanologique de Villefranche sur mer (France). He was awarded the Research Fellowship at Water Research Institute - National Council of Research of Rome (Italy) in 2013 and at National Institute of Oceanography and Experimental Geophysics of Trieste (Italy) in 2015 to study the effect of organic pollutants on marine microbial processes and the transfer of pathogenic microorganisms via ballast water, respectively. In 2017, he joined the State Key Laboratory in Marine Pollution at City University of Hong Kong as Senior Research Associate and was awarded the Hong Kong PhD Fellowship (2017-2020) in Biomedical Sciences.

Scuba Diving Instructor and scientific educator, the current research is focusing on coral physiology and microbes associated in response to natural fluctuations and anthropogenic stressors.

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All are welcome !