

“The short-term plasticity of Hong Kong’s *Platygyra* spp. corals: a new insight on coral *in-situ* metabolism and *ex-situ* manipulations”

Mr Walter Dellisanti
Department of Biomedical Sciences
City University of Hong Kong

Date : 17 January 2019

Time: 11:00am to 12:30pm

Venue: Room 2614, 2/F, Li Dak Sum Yip Yio Chin Building (LI)

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. 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. Hong Kong coral communities are frequently exposed to acute temperature and heavy rainfall events during the wet season (summer). They may not have subjected to tissue mortality since they are adapted to light intensity fluctuations and increased feeding rates. However, the increase in the frequency and severity of acute stress events in coastal waters provides an additional stress for corals surviving at the edge of their environmental and physiological tolerances, even with slow growth and physiological rates. Unfortunately, how corals metabolically response to local perturbations (such as warming, heavy rainfall, and bleaching events) in their natural environment is still poorly understood.

Coral in-situ metabolism of *Platygyra* spp. colonies has been investigated in Port Island, Hong Kong, during summer 2018. Simultaneously, several single stress ex-situ experiments have been carried out to better understand the physiological tolerance at the threshold limit of high temperature and low salinity. Here we show the first results from our strategy 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 and the co-influence of biotic and abiotic factors in a changing climate scenario.

Enquiries:

Dr Leo Chan (3442-4125, leochan@cityu.edu.hk)

Ms Irene Wong (3442-4707, irene.wong@cityu.edu.hk)

All are welcome !