



**THE CHINESE UNIVERSITY OF HONG KONG  
FACULTY OF MEDICINE  
SCHOOL OF BIOMEDICAL SCIENCES**

**SBS PI Seminar Series 2023-2024**

**Prof. Sang-Bing ONG**

Assistant Professor

Department of Medicine & Therapeutics, Faculty of Medicine /  
Centre for Cardiovascular Genomics and Medicine  
The Chinese University of Hong Kong

will present a seminar entitled

***“Fusion and fission of mitochondria:  
Gatekeepers of life and death in the heart”***

Cardiovascular disorders remain the leading cause of death and disability worldwide. The extent of cardiac cell death and left ventricular systolic function are the strongest predictors of morbidity and mortality following cardiac disorders. Despite optimal therapy, the morbidity and mortality of cardiovascular patients remain significantly high. On this background, there remains an urgent clinical need to discover novel therapies for reducing cardiac injury/death and preserving cardiac function so as to improve health outcomes for cardiovascular patients. The mitochondria – energy-providing organelles in the cardiac cell, have been found to be at the convergence of multiple signalling pathways that dictate life or death in the heart. As opposed to conventional belief that the mitochondria are static organelles, mitochondria are actually dynamic whereby they change shapes (morphology), shift locations on the cytoskeletal tracks and are selectively degraded by a process known as mitophagy following damage/senescence. Recent efforts have focused on targeting the mitochondrial morphology to protect the heart against injury. We describe here the efforts of our team in genetically and pharmacologically manipulating the mitochondrial morphology using in vitro as well as in vivo models of acute myocardial infarction to achieve cardioprotection against ischemia-reperfusion injury.

**11 December 2023, Monday, 4:00 pm – 5:00 pm**

Room G02, Lo Kwee-Seong Integrated Biomedical Sciences Building,  
Area 39, The Chinese University of Hong Kong