City University of Hong Kong
Department of Biomedical Sciences
presents a seminar

"GENETIC AND EPIGENETIC DETERMINANTS OF LONGEVITY IN C. *ELEGANS*"

by

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Date : 5 April 2016
Time: 10.00am to 11.30am
Venue: Meeting room 2-130, 1/F, Block 2, To Yuen Building, CityU

Abstract
A better understanding of the molecular basis of aging will have important implications for the management of age-dependent functional decline, as well as the prevention and treatment of many crippling age-dependent diseases. The overall research objective of my lab is to elucidate the evolutionarily conserved molecular pathways important for longevity determination, mainly using C. *elegans* as a model system. One aspect of our research focuses on the molecular basis of how partial mitochondrial dysfunction affects longevity. We have recently uncovered a new link between the key metabolic sensor AMP kinase (AMPK) and the transcription factors CEH-23 and CEP-1 in mediating the altered lifespans of several mitochondrial electron transport chain (ETC) mutants. Our working model is that this signaling cascade elicits compensatory responses that cope with the mitochondrial stress and also modulate lifespan. Another aspect of our research focuses on how epigenetic regulation, in particular chromatin regulation, impacts longevity. We are studying the mechanistic details of how the SET-9 and SET-26 proteins, two putative methyltransferases, normally restrict lifespan. We are also using a genomic approach to probe how the global patterns of several key histone modifications change with age. Together, these investigations will provide molecular insights into how altered chromatin structure modulates longevity.

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All are welcome