



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY  
Division of Life Science

*LIFS Seminar Series*

Epigenetic inheritance and reprogramming  
in early mammalian development

by

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**Abstract**

Fertilization marks the beginning of a new life. This is followed by drastic epigenetic reprogramming that converts terminally differentiated oocyte and sperm to totipotent embryos. However, how chromatin is reprogrammed at the DNA level in early development is poorly understood. Furthermore, whether histone modifications, the crucial epigenetic regulators, can be passed on from parents to the next generation is a long-standing question that remains elusive. By developing cutting-edge technologies, we recently investigated dynamic regulation of chromatin and histone modifications from gametes to the next generation in mice. In addition, we also showed how parental memory is controlled by a simple isoform switch of an epigenetic regulator. Our studies not only revealed extremely dynamic, non-canonical epigenomic reprogramming that accompanies early embryogenesis, but also shed lights on the fundamental principles underlying epigenetic inheritance between generations.

**Date : 3 February 2017 (Friday)**

**Time : 4:00 p.m.**

**Venue : Lecture Theatre C  
The Hong Kong University of Science  
& Technology  
Clear Water Bay, Kowloon**

*(Host faculty: Dr. Danny Leung)*

***All are Welcome!!***