



DEPARTMENT OF MECHANICAL ENGINEERING
AND
MEDICAL ENGINEERING PROGRAMME

SEMINAR

Online

Title: Multiphoton Microfabrication Platform - Effect of Mechanical Asymmetry in Stem Cell Niche on Asymmetric Cell Division (ACD)

Speaker: Mr. Chan Chun Hin Chris (PhD candidate)
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Date: 28 April, 2022 (Thursday)

Time: 10:30 a.m. (Hong Kong Time)

Zoom Link: 1) Link to join the meeting:

<https://hku.zoom.us/j/97379256212?pwd=a3FERGE1Vy9uWnJqb3FKajlNb0pWZz09>

2) Meeting ID: 973 7925 6212

3) Password: 402597

Abstract:

Asymmetric cell division (ACD) is an essential process in stem cells in which cells divide into two daughter cells with different cellular fates. In such way the stem cell pool can maintain its cell renewal ability, but at the same time give rise to lineage-specific cells. The segregation of cell fate determinant is an important mechanism of the process. It is known that stem cells ACD is also highly dependent on the stem cell niche, where cells are able to sense the mechanical signals from the underlying niche and regulate cell behaviors. The Multiphoton Microfabrication and Micropatterning (MMM) platform established by the HKU Tissue Engineering Lab is able to construct engineered cell niche with controllable niche factors including the mechanical properties, topological features and ECM components. This study employs the MMM platform and aims to microfabricate structures consisting of microwells and pillars with controllable patterns of mechanical properties (elastic modulus and stiffness) in the scale of a single cell approach to investigate the effect of mechanical asymmetry in stem cell niche on mouse embryonic stem cells.

ALL INTERESTED ARE WELCOME

For further information, please contact Prof. B. Chan at 39172632.

Research area: Biomedical Engineering