



DEPARTMENT OF MECHANICAL ENGINEERING
AND
MEDICAL ENGINEERING PROGRAMME

SEMINAR

Online

Title: Bioprinting for Hepatic Tissue Engineering

Speaker: Miss Zhang Xinyang (PhD candidate)
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Date: 25 April, 2022 (Monday)

Time: 4:00 p.m. (Hong Kong Time)

Zoom Link: 1) Link to join the meeting:

<https://hku.zoom.us/j/98924060133?pwd=Y2lwajQ1NUZUaWkyVUIrVmsrd0YxQT09>

2) Meeting ID: 98924060133

3) Password: 555739

Abstract:

The liver, the largest internal gland in the human body, plays a key role in metabolism, bile production, detoxification, and water and electrolyte regulation. The toxins or drugs that the gastrointestinal system absorbs reach the liver first before entering the bloodstream. Worldwide, liver diseases are a leading cause for human deaths. Therefore, an in vitro liver tissue model that reproduces the main functions of the liver can be a reliable platform for investigating liver diseases and for developing new drugs. Essential elements must be considered in liver tissue engineering-cells and culturing systems, bioactive agents or growth factors, and biomaterials and fabrication methods. In addition, the limitations in traditional, planar monolayer cell cultures and animal tests for evaluating the toxicity and efficacy of drug candidates should be overcome. Currently, the newly emerging 3D bioprinting technologies show the promise to construct in vitro liver tissue models both in static scaffolds and dynamic liver-on-chip manners. In this seminar, I shall focus on the construction and application of liver tissue models made by 3D bioprinting. Special attention will be given to 3D bioprinting strategies and bioinks for constructing liver tissue models. In addition, the major research directions for hepatic tissue bioprinting will be presented and discussed.

ALL INTERESTED ARE WELCOME

For further information, please contact Prof. M. Wang at memwang@hku.hk.

Research areas: Advanced Materials and Biomedical Engineering