

**The University of Hong Kong**
Department of Pharmacology and Pharmacy**Presents****Seminar series — Drug Delivery and Translational Medicine****Developing advanced biomaterials and devices for type 1
diabetes cell replacement therapies****by****Prof. Minglin Ma**

Professor

Department of Biological and Environmental Engineering
Cornell University**Date:** 31 March 2023 (Friday)**Time:** 9:30 a.m. — 10:30 a.m.**Venue:** Zoom Seminar**Zoom link:** <https://hku.zoom.us/j/97791081925>

Meeting ID: 977 9108 1925

Password: 238952

Abstract:

Type 1 diabetes (T1D) is an autoimmune disease where the patients' insulin-producing pancreatic islet cells are mistakenly destroyed by their own immune system. It affects millions of people in the world many of whom are children. The standard therapy is based on insulin injections or infusion which can keep the patients alive but unfortunately do not cure the disease or prevent many devastating diabetic effects. Replacing the missing islet cells with donor islets or more ideally stem cell-derived insulin producing cells has been considered as a promising alternative to the insulin therapy. However, before the cell replacement concept becomes a widespread clinical reality many challenges need to be addressed including the systemic immunosuppression, the foreign body responses, the suboptimal cell survival and function, and various safety concerns. In this talk, I will discuss our recent efforts to develop different types of biomaterials and cell delivery devices targeting some of the above-mentioned challenges.

Bio:

Prof. Minglin Ma is a Professor at the Biological and Environmental Engineering Department of Cornell University. He received his BS degree from Tsinghua University and PhD from MIT, both in Chemical Engineering. Prior to joining Cornell in 2013, he worked as a Lead Scientist at General Electric Global Research Center and as a postdoctoral fellow in Dr. Robert Langer's laboratories at MIT Koch Institute. His group are interested in developing advanced biomaterials for agricultural and biomedical applications with a particular focus on cell replacement therapies for type 1 diabetes.

