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**The University of Hong Kong**  
**Department of Pharmacology and Pharmacy**  
**Presents**

**Seminar series – Drug Delivery and Translational Medicine**

**Using Light to Control Biology and the Delivery of Therapeutics**

**by**



**Prof. Simon Friedman**

UM Curators' Distinguished Professor  
Division of Pharmacology & Pharmaceutical  
Sciences  
University of Missouri, Kansas City, USA

**Date:** 16 July 2024 (Tuesday)

**Time:** 10:00 a.m. – 11:00 a.m.

**Venue:** Seminar Room 608, 6/F William MW Mong  
Block, LKS Faculty of Medicine, 21 Sassoon Road,  
Pokfulam, The University of Hong Kong

**Abstract:**

Much of biology and medicine depends on the timing and spacing of events. We are developing chemical tools that allow for us to control the spacing, timing and degree of gene expression using light. Light is a particularly appealing tool, because it is easy to manipulate, and once you link a process to it, it is relatively straightforward to control when the process happens, where it happens and to what degree it happens. We have also applied this idea to the challenge of therapeutic protein delivery. Some therapeutics require dosing that varies continuously throughout the day (e.g. insulin). The classic ways of enabling this variability, namely a pump and canula inserted into a patient, are beset by a wide range of problems (infections, occlusions, variability). Instead we are developing tools to use light to control the release of therapeutics, which then allows continuous variability with minimal invasiveness. All of this work leverages the power of chemistry and applies it at the interface of chemistry, biology and medicine to answer critical questions and address important therapeutic needs.

**Bio:**

**Professor Simon Friedman** is a scientist working at the interface of chemistry and biology. He trained at MIT (SB Chemistry), University of California-San Francisco (Ph.D. Pharmaceutical Chemistry) and Caltech (NIH Postdoctoral Fellowship in Chemical Biology). He is currently a Curators Distinguished Professor in the Division of Pharmacology and Pharmaceutical Sciences at the University of Missouri-Kansas City. There he heads an NIH supported laboratory focused on biomedical problems at the interface of chemistry and biology. His work has been described in the pages of The Economist, The New York Times and on NPR and has been cited over 2000 times.

**Moderator:** Prof. Weiping Wang, Associate Professor, Department of Pharmacology and Pharmacy & Dr. Li Dak-Sum Research Centre, The University of Hong Kong

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Seminar series  
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