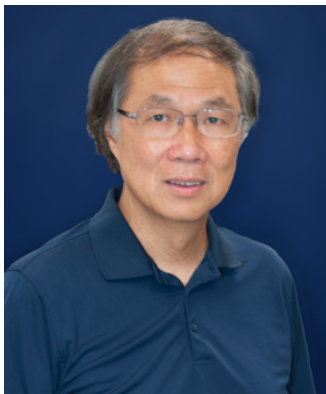




Joint CNRM-BME Distinguished Lecture & CUHK Distinguished Visiting Professorship

Nanoparticle-mediated Oral Delivery of Biologics



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Date: 20 August 2024 (Tuesday)

Time: 10:30 am – 12:00 noon

Venue: T. Y. Wong Hall, CUHK

Abstract

Advances in proteomics, as well as DNA and RNA technologies, have significantly progressed the fields of protein and gene therapies. Oral delivery of protein and nucleic acid therapeutics offers notable clinical benefits by enhancing patient adherence and convenience compared to injections. However, this route of administration faces substantial challenges due to high degradation in the gastrointestinal tract and low bioavailability in systemic circulation. In this presentation, I will discuss our efforts to achieve oral delivery of biologics using chitosan-based carriers. I will discuss exploration of applications ranging from vaccination to chronic protein therapy and gene editing, highlighting improvements achieved through successive iterations of chitosan nanocarriers.

Dr Leong is the Samuel Y. Sheng Professor of Biomedical Engineering at Columbia University. He is one of the pioneers in developing multifunctional nanocarriers for delivering drugs, antigens, proteins, siRNA, and DNA to cells. He graduated with a B.S. from the University of California, Santa Barbara, followed by a Ph.D. from the University of Pennsylvania, both in Chemical Engineering. Dr. Leong's current research encompasses nonviral gene editing in vivo, biomaterials for inflammation modulation, and human-tissue chips for disease modeling and drug development. His publication record includes around 500 manuscripts, an h-index of 138, and over 72,000 citations. He also holds more than 60 issued patents. Dr. Leong's contributions have been recognized by his election to the USA National Academy of Engineering, the National Academy of Inventors, and the National Academy of Medicine. Other recent awards include the Society for Biomaterials' Founders Award (2022), the IEEE-EMBS Career Achievement Award (2023), and the IEEE Biomedical Engineering Award (2024). Dr. Leong has been serving as the Editor-in-Chief of the journal Biomaterials for the past decade.

For enquiries, please contact Ms. Joyce Chan, Department of BME at 3943 87278

Light refreshment and coffee/tea will be provided. Please bring your own mugs.