

Seminar

Mucoadhesive Drug Delivery Carriers

Prof. Havazelet Bianco-Peled

*Departments of Chemical
Engineering, Technion-Israel Institute
of Technology, Haifa Israel*



Date: Friday, 7th July 2023, 14:00-15:00

Venue: Faculty of Engineering Bldg. 4, 3F, Room 402

Abstract: Transmucosal drug delivery involves transport of therapeutic agents through the mucosa layer, which lines organs exposed to the outer surface of the body yet are not covered with skin. This method of delivery offers several potential benefits over oral drug administration. Mucoadhesion, namely adhesion of the drug carrier to the mucosa, enhances the performance of transmucosal delivery systems by providing extended residence time of the drug at the site of application. In my talk I will describe new approaches in mucoadhesion based on modification of polymers as a way to enhance mucoadhesion. Specifically, we developed a novel class of polymers carrying unsaturated end groups. Michael type addition reactions are used to covalently attach these polymers to the mucus. Our studies involved synthesizing these biomaterials, and extensive characterization of their properties. We explored various dosage forms including tablets, liquids, nanoparticles and paste. We demonstrate a significant improve in adhesion, and lack of toxicity. Applications in the field of oral cancer treatment will be emphasized.

Contact: A/Prof. Hirotaka Ejima (ejima@material.t.u-tokyo.ac.jp)