MAURY STRAUSS DISTINGUISHED PUBLIC LECTURE
Presented by the Fralin Biomedical Research Institute at VTC

In Person Lecture: Sticky Nanoparticles for Health and Healing

Polyelectrolytes have unique properties that make them advantageous for the design of nanomaterials for drug delivery. These polymers are water-soluble, have a large number of easily modified reactive side chains for attachment of ligands, and can exhibit charge that can be designed to be sensitive to physiological conditions such as pH, redox conditions or the presence of specific enzymes. This capability makes charge a very enabling tool in the targeting of nanomaterials to specific tissues, as well as in adapting the transport of nanoparticles through typically charged and dense tissue matrices consisting largely of proteoglycans, polysaccharides or other biomolecular networks. In each case in which charge is an enabling factor for penetration in an oppositely charged matrix, there is also a complementary requirement to modulate the charge to enable interaction while affording effective diffusion and transport within tissues and organs. Systematic studies reveal a critical parameter space within which we must balance these properties while maintaining biocompatibility of the nanocarrier, and a means of defining the effective charge in such shielded systems. Dr. Hammond and her lab have developed a modular nanoparticle approach using core particles and layering them with an electrostatic layer-by-layer (LBL) process in a simple and elegant method of constructing highly tailored ultrathin polymer coatings.

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THURSDAY, APRIL 27, at 5:30 p.m.
(Reception and hors d'oeuvres at 5 p.m.)
Room M203, 2 Riverside Circle, or watch via Zoom: https://FralinBioMed.info/DPL-Join.

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