

Physical Chemistry Seminar

219 Brown Laboratory/ Zoom

Zoom Link <https://udel.zoom.us/j/98093174367>

Friday, October 7, 2022, 4pm

Ultra-thin molecular coatings: design, function, and applications



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I will discuss our efforts to use molecular coatings (MC) to enhance functions of biomedical, electronic, and optical devices for outstanding challenges in bio-separation and sensing, molecular electronics, and optics. One limitation in surface chemistry that has precluded a wide adaptation on monomolecular coatings is that most MC systems rely on self-assembly that either limits stability, functionality, or homogeneity of the deposited films. I will describe our approaches towards creating MC's that avoid this limitation: i) by relying on stable and non-reactive substrate-molecule attachment to enhance stability; ii) by lowering the activation barrier of the attachment reaction to increase functionality; and iii) by relying on bi-layered molecular films that promote homogeneous co-deposition of dissimilar film components.



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