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First talk “Nanoparticles and Viruses”

Abstract "In this talk novel approaches to develop antiviral drugs will be presented. Specifically, nanoparticles capable of irreversibly damage viruses will be presented. It will be argued that that the mechanism of action is that of exerting a pressure on the viral shell. This property, combined with the fact that the particles have minimal toxicity to mammalian cells, renders the particles a potential candidate to the first virucidal drug to get approval for medical use. In particular the case of herpes simplex 2 will be discussed. Other effects of nanoparticles on virus stability and infectivity will be presented. "

Second talk “Advances in Nanoparticles and Solid-Liquid Interfaces Characterization”

Abstract "A bird eye view of any folded protein shows a complex surface composed of hydrophobic and hydrophilic patches closely packed. To date little is known on the fundamental properties that such packing determines. In this talk I will present my group's endeavours into the synthesis, characterization, and understanding of a family of nanomaterials (mixed monolayer protected nanoparticles) that posses a surface coexistence of patches of opposite hydrophilicity resembling that present on folded protein. Attention will be placed in describing approach we have developed to characterise such surfaces and possible extension of these approached to characterise similar surfaces. I will show that these materials are ideal model compound to uncover the basic properties that such coexistence determines at the solid liquid interface, and will conclude with example of application of these nanoparticles when used as mimic of biological entities ."