TIFR Centre for Interdisciplinary Sciences
21 Brundavan Colony, Narsingi, Hyderabad 500075

Seminar

Soft Interfacial Materials

Prathima C. Nalam

University of Illinois, Urbana-Champaign, USA

Soft interfacial materials cover a broad range of materials, such as polymer films and brushes (paints and lubricants), hydrogels (contact lens, drug carriers) and biological entities (lipid membranes), for example. These films are often nano- or micro- scale in dimensions and have ability to alter or tune the underlying material properties with respect to their environment. The science of soft interfaces is moving into an era of predictive engineering which will allow the design and development of advanced materials. The bottom-up approach to develop new interfacial materials would require the development of new methodologies to measure the mechanical properties and understand the structure-mechanical relationship at the fundamental length scales. It is critical to address the ability of the soft materials to sustain mechanical stresses and to resist fracture for building more reliable soft material-based materials. In my present talk, I will address the development of novel methodologies which will help to measure the friction and rheological properties of the soft interfacial materials, at nanoscales, and the ability of the interfacial material to alter the overall functionality of the systems.

Thursday, Jan 14th 2016

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS