



Centre for Biosystems Science and Engineering

SEMINAR

Curvature Instabilities in Colloidal Membranes

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Seminar Hall, MRDG, Biological Sciences Building

Membrane curvature generation and remodeling are critical for trafficking and cellular functions. Local curvature generation is associated mainly with specialized proteins which use mechanisms such as protein crowding, nanoscopic and macroscopic scaffolding. We investigate curvature generation in a highly simplified model system of colloidal membranes and show that structural phase transitions within the membrane alone are enough to result in membrane curvature and wrinkling. We determine the structure and dynamics of the buckled colloidal membranes using a variety of microscopy and scattering techniques to identify the relevant parameters in the phase transition that affect the overall morphology of the membranes.

About the Speaker

Dr. Prerna Sharma is an Assistant Professor in Physics at IISc. She completed Integrated Masters and Ph. D. in Physics from Tata Institute of Fundamental Research, Mumbai in 2011. Thereafter, she was a post-doctoral fellow at Brandeis University. Her current research interests lie in the areas of soft matter physics and biophysics.

