

Colloquium

Elastocapillary phenomena with thin films

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Soft solids in contact with liquid or fluid phases can be significantly deformed due to capillary forces. Thin elastic sheets with small bending stiffness are an example of such a system. In this presentation, I will introduce this regime of elastocapillarity and talk about the particular example where thin sheets can be used to wrap liquid drops in a spontaneous process driven by capillary forces. Many liquid phase technologies require the encapsulation of one liquid in another. In the stabilization of emulsions, drug delivery, and remediation of oil spills, liquid droplets are separated from the surrounding liquid by a fluid monolayer of molecular or particulate surfactants. In contrast, these thin sheets can be used as a new class of solid surfactant with immense possibilities to build novel functionalities into the interface.

Monday, Aug 13th 2018

4:00 PM (Tea/Coffee at 3:30 PM)

Auditorium, TIFR-H