

# The 303<sup>rd</sup> MANA Seminar



## Spreading dynamics of a dye doped smectic liquid crystal domain at air-water interface

Chair: Dr. Tsuyoshi Hasegawa (MANA PI)

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Spreading of a liquid drop over liquid surfaces has attracted lot of attention due to its relevance in oil recovery, spillage, emulsion and foam stability. In literature, a few reports have concentrated on the spreading and retraction of a liquid drop over liquid subphase. We present here the spreading dynamics of a dye doped multilayered smectic (Sm) liquid crystal (LC) domain at air-water interface. The layers of the domain shear past each other and spreads to a larger area in the epifluorescence setting of the microscope. Here, the area of the domain is about twice that of the initial area. In the reflection setting of the microscope, the domain retracts to a smaller area. Edge dislocation loops are observed during retraction. Two different time constants were extracted from the area dependence with time during spreading and retraction. The reason behind such dynamics will also be discussed.

**Venue: Auditorium, 1F, WPI - MANA Bldg.**

**Date: December 21<sup>st</sup>, Friday Time: 15:30-16:15**

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