

The 279th MANA Special Seminar



Phase Transitions and Ordered Phases in the Monolayers at the Air-Water Interface

Chair: Dr. Katsuhiko Ariga (MANA PI)



Prof. Md. Mufazzal Hossain

*(Department of Chemistry,
University of Dhaka, Bangladesh)*

Two-dimensional ordering in the monolayers at the air-water interface has been of growing interest. Water soluble surfactants undergo adsorption spontaneously at the air-water interface from the bulk solution and form Gibbs monolayers. Formation of highly ordered phases in this monolayer was an unknown phenomenon until 1996. During the last decade, it has been shown that some specially synthesized water soluble surfactants show phase transitions and condensed phase domain formation at the air-water interface. In the present presentation, phase transition in Gibbs monolayers of different amphiphiles having different head groups and their effect on the morphology of the monolayers will be discussed. All of the common phase transitions such as G-LE, G-LC and LE-LC together with some exceptions have been found in Gibbs monolayers. On the other hand, Langmuir monolayers are also formed by compression using external force. The phase transition in the Langmuir monolayers of lipids containing phosphate group as a head group will be presented. Finally, the effect of an amino acid on these monolayers will be discussed.

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

Date: August 6th, Monday Time: 15:30-16:15

Contact: International Center for Materials Nanoarchitectonics (MANA), Nakata (ex. 8806)

**Namiki
site**