

The John D. Ferry Lectureship in Macromolecular Science

Thursday, February 18

3:30 p.m.

Room 1315 Chemistry



MACROMOLECULAR SURFACTANTS

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Block copolymers belong to a broad class of amphiphilic compounds that includes lipids, soaps, and nonionic surfactants. A macromolecular architecture affords certain unique advantages over conventional low molecular weight amphiphiles in constructing nanoscale objects with prescribed morphologies and physical properties. I will describe the formation of structures classically found in mixtures of oil, water and surfactant. The static and dynamic properties of spherical and worm-like micelles, vesicles, and bicontinuous microemulsions have been investigated in a variety of systems using small-angle x-ray and neutron scattering (SAXS and SANS), electron and optical microscopy, and *in-situ* rheological techniques. This presentation will highlight the similarities and differences between macromolecular and traditional amphiphiles, including several illustrative examples that address practical needs in fields ranging from biomedical engineering to structural plastics.

Please contact Prof. Mahesh Mahanthappa, mahesh@chem.wisc.edu, with questions