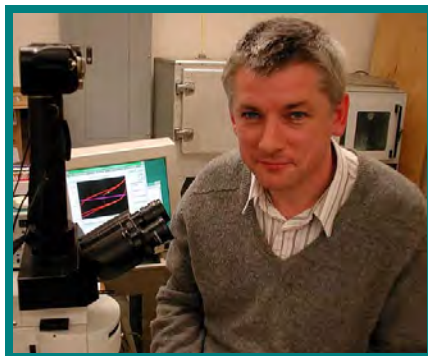




Faculté des arts et des sciences
Département de chimie
SÉMINAIRE RÉGULIER



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Self-Assembly of Phospholipids at the Surfaces of Thermotropic Liquid Crystals

Mercredi, le 14 janvier 2004
Salle G-1015, Pavillon Principal
11h30

Résumé:

The self-assembly of phospholipids has been widely studied at a variety of aqueous interfaces, including interfaces with air, oils, hydrophobic and hydrophilic solids. The fluid assemblies formed by phospholipids at these interfaces (such as monolayers and bilayers of phospholipids) provide experimental systems for understanding the properties of biological membranes, including the interactions of phospholipids with binding proteins, enzymes and small molecules (such as drugs). Here we report it is also possible to assemble phospholipids at a planar interface created between an aqueous phase and a film of thermotropic liquid crystal. The transfer of phospholipid onto the interface is spontaneous and accompanied by a change in the orientation of the liquid crystal. Specific binding of proteins with the phospholipids as well as the action of enzymes on the phospholipids are also found to lead to changes in the orientation of the liquid crystal that can be readily imaged with micrometer-resolution by transmission of polarized light through the liquid crystal. The observed coupling between the phospholipid and thermotropic liquid crystal provides a facile means of real-time reporting of phenomena involving biomimetic phospholipid-laden interfaces that does not require use of labels (e.g., fluorescent) or complex instrumentation.

Le Département de chimie organise annuellement plusieurs séries de conférences et séminaires et tient à remercier particulièrement les commanditaires qui rendent ces programmes possibles : **AstraZeneca, Boehringer Ingelheim, Centre de recherche sur les matériaux auto-assemblés, Eisai, Fondation Barré, Merck Frosst, Servier, Shire BioChem, Systems for Research**. Les conférenciers prestigieux invités, dans le cadre des grandes conférences, offrent à la communauté scientifique montréalaise les meilleures présentations dans les différents domaines de pointe de la chimie.