

# COLLEGE 8 &9 Seminar

Thursday, February 11<sup>th</sup>, 2010 at 11:00  
EMBL Seminar Room, Ground Floor

## Specific Saccharide Interactions in Membranes containing LewisX Lipids Investigated by Neutron Scattering

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Solid-supported membrane multilayers doped with membrane-anchored oligosaccharides bearing the LewisX motif (LeX lipid) were utilized for the study of specific carbohydrate-carbohydrate interactions. The samples were investigated by specular and off-specular neutron scattering on D16 using a liquid cell specifically designed to investigate membranemultilayers at full hydration and under various buffer conditions. It was found that membrane-anchored LewisX cross-links the adjacent membranes by the formation of homophilic pairs. A theoretical estimation of forces and energies required to cross-link the neighboring membranes was conducted and compared with the experimental results. The mechanical parameters extracted from the off-specular scattering signals showed that cross-linking by LewisX has no significant influence on the bending rigidity of the membranes throughout the studied cross-linker densities. In contrast, the inter-membrane confinement bound to the membrane compressibility was found to increase with increasing LeX lipid density.

Emanuel Schneck will be on site from Wednesday 10/02 to Friday 12/02 (contact B. Demé)

External visitors may ask for a site access to Karine Sultan (sultan@ill.fr)