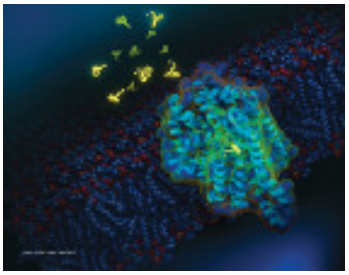

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Static and Dynamic Neutron Scattering Studies of Biologically Relevant Membranes

Model membrane studies involving X-rays and neutrons have greatly informed our understanding of the structure and dynamics of biological membranes. Recently, membrane lateral organization –thought to play a vital part in the function of membranes in vivo –has been emulated in model membrane systems, and neutron scattering approaches have been developed to study this organization on the nanoscale. At ORNL we have developed neutron scattering approaches to study membrane models, which have then been applied to in vivo systems (i.e., B. subtilis). During the seminar I will describe static and dynamic studies of laterally organized membranes and elaborate on future developments to the neutron spin echo (NSE) technique for accurately obtaining the bilayer bending modulus (Kc) –one of the most important physical constants characterizing lipid membranes –and membrane viscosity.

Author: Dr KATSARAS, John (Oak Ridge National Laboratory)

Presenter: Dr KATSARAS, John (Oak Ridge National Laboratory)