

Role of Oligo- and Polysaccharides in Modulation of Biological Interfaces

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In nature, cell-cell and cell-tissue contacts are mediated by various hydrated biopolymers. In my talk, I will introduce some of our recent studies that physically model the active roles of "soft" biopolymers (carbohydrates) in fine-adjustment of contacts at biological interfaces by specular and off-specular neutron and X-ray scattering at defined relative humidity as well as in bulk water. The planar geometry of the biomembrane models enables us to identify the in-plane and out-of-plane momentum transfers at various angles quantitatively, which can be used to determine the influence of carbohydrates on structural and mechanical properties of membranes.

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