

Hierarchical structures in life sciences - probing different length scales in bulk and at interfaces

Wednesday, 26 April 2023 15:30 (30 minutes)

We will discuss challenges when it comes to revealing structures in life science associated with the hierarchical structure of these systems.

First we will discuss revealing the structure of lipid self assembly structures at interfaces. Here in particular we will discuss the structure formed by non-lamellar lipid liquid crystalline phases on surfaces as revealed by Grazing Incidence Small-Angle Neutron Scattering on a nanometer length scale. The limitation in terms of low scattering intensity and high background will be discussed, but also the potential of fully reveal these types of structures with neutron techniques.

Starch particles have been used to stabilize O/W food emulsions. This is because starch is a naturally occurring polysaccharide that is safe to use in foods and because it is abundant, biodegradable and inexpensive. The can be modified The for emulsification most suitable starch granules are in the order of 1 micrometer, which is a challenging size range for study the internal structure as it requires a wide Q-range. Initial SANS data will be presented and challenges in terms of interpretation of the data is discussed. The case for being able to measure at lower q for in particularly at low q will be given.

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Session Classification: Large scale structures