

SANS, USANS and rheo-SANS of novel surfactant self-assembly

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SANS has become the standard technique for determination of micelle structure in dilute solutions, offering benefits of contrast variation to interrogate structures with high fidelity. However, the limits of accessible length-scale and dynamic resolution have limited application to some systems of interest, including wormlike micelles and highly concentrated systems. In this talk, we will highlight recent developments and measurements that explore the utility of SANS in combination with USANS and rheology (rheo-SANS) in highly concentrated systems. We primarily focus on the scattering of self-assembled surfactants with additives, from wormlike carbohydrate and betaine systems to highly concentrated lamellar liquid crystals loaded with 2D and 3D nanoparticles. In addition to presenting and discussing data in relation to the chemistry and soft matter physics of the systems explored, we will also discuss modelling developments and future directions required to analyse completely such complex systems.

Speakers Gender

Male

Travel Funding

No

Level of Expertise

Experienced Researcher

Do you wish to take part in the poster slam

No

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