Contribution ID: **299** Type: **Talk**

Deuteration Service for Users of the MLZ Neutron Scattering Instruments

Wednesday 22 March 2023 16:30 (30 minutes)

In order to provide users of the neutron scattering instruments at the MLZ with the appropriate partially or fully deuterated materials, JCNS has started last year a deuteration service, primarily from our core competences of polymers, ethoxylation and organic synthesis.

Based on our long standing expertise in synthesizing soft matter materials, we offer the deuteration of various polymers, surfactants and a variety of small molecules. In this presentation, some recent advances will be presented, which includes the synthesis of deuterated thermoresponsive polymers from the acrylate, methacrylate and vinyl families. In addition we have now implemented the technologies to produce the whole range of polyethylene glycols starting from very low molecular weight oligomers up to ultrahigh molecular weight polymers. Ethoxylation technologies also play the key role for the synthesis of many non-ionic surfactants. Recent advances include the synthesis of monodisperse alcohol ethoxylates, Span and Tween surfactants. In the latter case we implemented a completely new synthesis procedure, which allows to selectively deuterate all building blocks, the sugar moiety, the EO chains and the fatty acid units.

Author: ALLGAIER, Jürgen (FZ Jülich)

Co-author: SCHWÄRZER, Kuno

Presenter: ALLGAIER, Jürgen (FZ Jülich)

Session Classification: Micro Symposium DEUNET 2

Track Classification: Micro-Symposium DEUNET