A new hydration chamber for lipid membranes

- calibration and proof of principle

(instrument P08@PETRAIII, Chen Shen and Beate Klösgen)

The project belongs to the field of surfaces and interfaces in soft matter, with a focus on the structure and dynamics of biomimetic lipid membranes.

This project extends over six-weeks, including both hands-on and data analysis experimental work. Preferentially, it shall be conducted on site at Hamburg DESY campus.

The student will join into our efforts to develop a hydration chamber for oriented lipid membranes for X-ray experiments. Specifically, the chamber will be calibrated and tested in an initial swelling experiment with a laboratory X-ray diffractometer. In parallel, the student will be trained in data analysis by working on datasets from a previous X-ray experiment such as to get familiar with the structural studies on lipid systems. Eventually, the student will join an X-ray experiment at beamline P08 using the new chamber and analyze the obtained data.

The student will be co-supervised by Dr. Shen from DESY and Prof. Klösgen from the University of Southern Denmark.