Contribution ID: **6** Type: **Talk**

The SAXS/WAXS Imaging capabilities at the SAXSMAT beamline P62 at DESY.

Tuesday 14 May 2024 16:15 (15 minutes)

Within this contribution, the technique of Small- and Wide-Angle X-ray Scattering (SAXS/WAXS) will be introduced in the context of nanostructure characterization in 3D. The focus is on the 3D orientation analysis of fiber-based structures using SAXS tensor tomography.

Three selected examples will be shown:

- Orientation analysis of collagen in breast cancer tissues. An understanding of the 3D architecture of the tumor environment is important to guide the development of novel therapeutic approaches. Especially the collagen orientation, diameter, and metal accumulation are of interest.
- Myelin quantification and orientation in multiple sclerosis (MS) human brain sections. Since MS is a demyelinating disease, quantifying the changes in myelin levels, integrity, and neuronal tracts enables an unprecedented understanding of the disease progression.
- What can be done with SAXS/WAXS imaging in the research field of archaeology? An example of a heritage object investigation will be shown.

Primary author: HAAS, Sylvio (DESY)

Co-author: COELHO CONCEICAO, Andre Luiz (DESY)

Presenter: HAAS, Sylvio (DESY)

Session Classification: Thematic Session: Data Acquisition / Image Formation - part II

Track Classification: Data Acquisition & Image Formation (focus on real-time imaging): Thematic focus: Data Acquisition & Image Formation