

molecular dynamics simulations that directly complement BCDI images.

Overall, we show how a coupled imaging and simulation approach enables visualizing the dynamical response of material heterointerfaces, with implications for the design of tailored functional devices.

References:

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Keywords: Diffraction, phonons, simulation

MS39 The use of X-rays and neutrons for experiments in nanoscience

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Correlative cryo soft X-ray imaging of cells

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Cryo soft X-ray tomography of whole cells in the water window energy range can provide relevant structural information of complex cellular phenomena with chemical sensitivity at spatial resolutions of 30 nm. Functional studies are achieved by correlating this information with visible light fluorescence on the same cell, but also by combining electron microscopy or even cryo X-ray fluorescence. Examples of correlative studies will be presented. First, we will focus on the structural changes in Hepatitis C infected cells [1]; second, on cholesterol crystal early formation in cells combining STORM [2] and finally on the heme detoxification process in the malaria parasite [3].

Keywords: X-ray imaging, correlative microscopy, cryo