

Soft X-Ray Microscopy for whole cell imaging

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Life science requires study of organisms, cells and sub-cell components over the full scale of lengths from millimetres to nanometres. One length – volume region which is inaccessible by TEM and beyond 3-D optical microscopy is work on whole cells (1-10 microns) with resolutions of tens of nanometres. This range is ideally covered with work on unstained, cryo-preserved samples using soft X-rays. However, little progress has been made in this area since it needs access to synchrotron sources. In recent years, Gatan has developed a laboratory scale soft X-ray microscope (SXM) which has the potential to bring this new imaging science into life science labs to complement OM, EM and other techniques.

The talks will present the hardware and initial results in 2D and 3D imaging in the SXM.