Deep live cell imaging with new IXplore SpinSR NIR add-on

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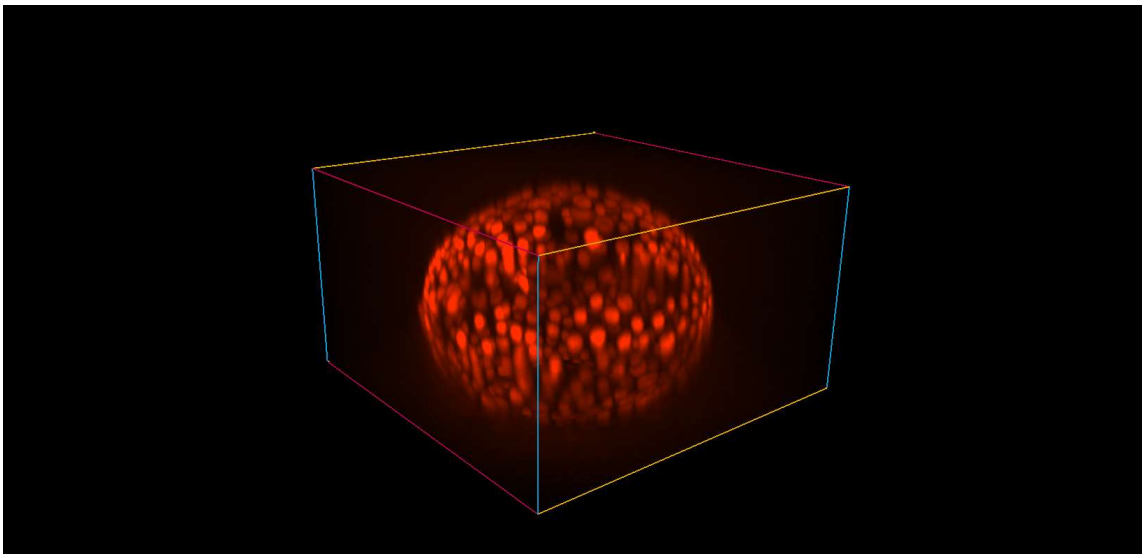

3D reconstruction of a mouse liver organoid, cultured in Matrigel. Nuclear membrane-targeted RFP (red)
Courtesy of Dr. Bernhard Strauss, Department of Biochemistry, University of Cambridge.

Spinning disk confocal microscopes simultaneously excite multiple image points and collect data using a highly sensitive camera, enabling fast imaging and optical sectioning of live 3D samples. Taking advantage of this technique, the IXplore SpinSR system not only allows to study dynamic cellular processes at high signal-to-noise ratio but also enables fast 3D super resolution imaging without the need for dedicated labeling procedures.

In this workshop we are going to introduce you to a fully automated and integrated system solution that combines SoRa technology with dedicated hard- and software to achieve 120 nm resolution. Spheroid and Organoid imaging particularly benefits from the use of silicone oil immersion optics. With a refractive index matching the one of living tissue silicone oil immersion objectives allow to penetrate deeper, catch more signal, and image the real shape of cells over time. The adaptation of near-infrared (NIR) fluorescence technology further supports gentle live cell imaging, deep imaging with reduced autofluorescence and expanded multiplexing capabilities.