

Lattice SIM technology from Zeiss for fast and gentle 3D superresolution imaging

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Life sciences research often requires you to measure, quantify and understand the finest details and sub-cellular structures of your sample. You may be working with tissue, bacteria, organoids, neurons, living or fixed cells and many different labels. Structure Illumination Microscopy (SIM) takes you beyond the diffraction limit of conventional microscopy to image your samples with superresolution. You can examine the fast processes in living samples – in large fields of view, in 3D, over long time periods, and with multiple colors, which makes SIM one of the best methods for live cell superresolution imaging. The new Lattice SIM technology from Zeiss brings SIM to a new level. Groundbreaking light efficiency gives you gentle superresolution imaging with incredibly high speed – at 255 fps you will get your data faster than ever before. In this talk, we will discuss the unique features of Zeiss Lattice SIM technology, including the rotation free Lattice beam illumination, the improved modulation contrast for deeper tissue imaging, the special “Leap mode” for multiple z-planes reconstruction, the “Apotome mode” for fast optical sectioning of 3D samples, as well as the “Burst mode” sliding process for superfast 2D processing.