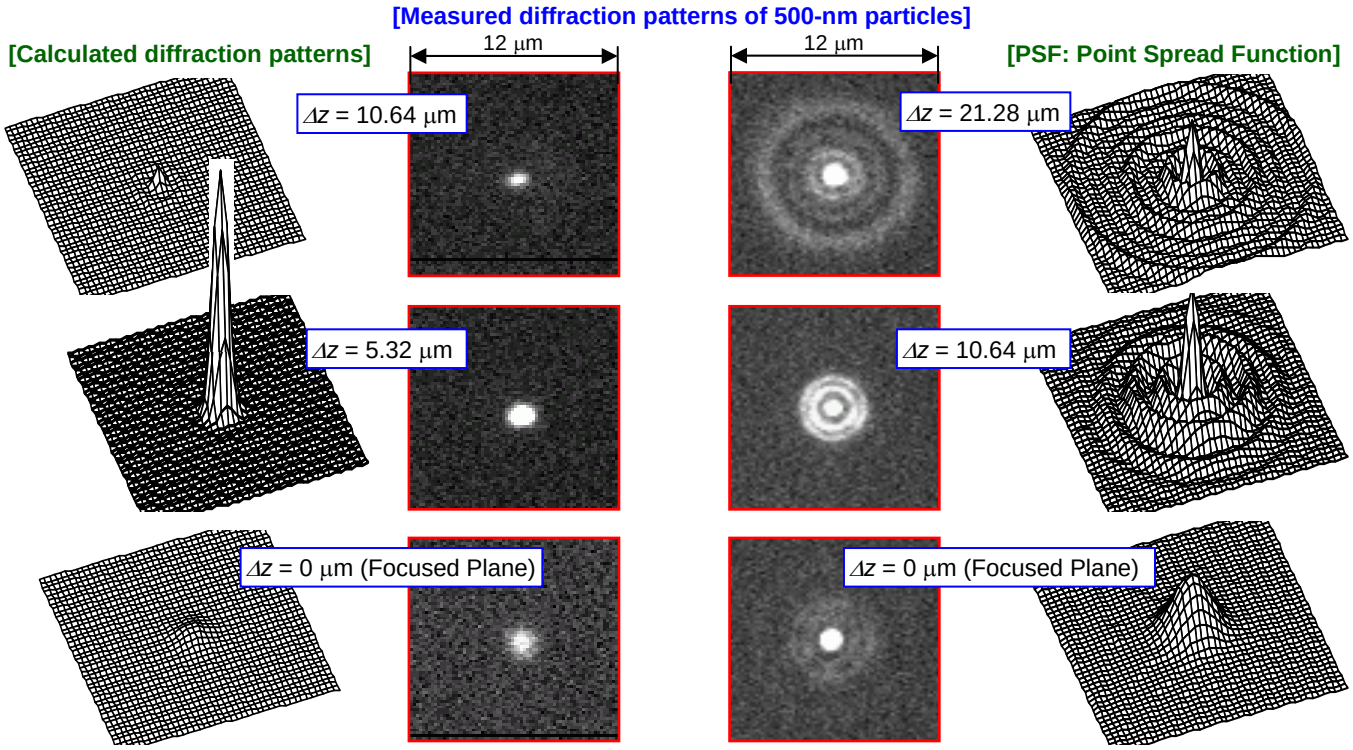
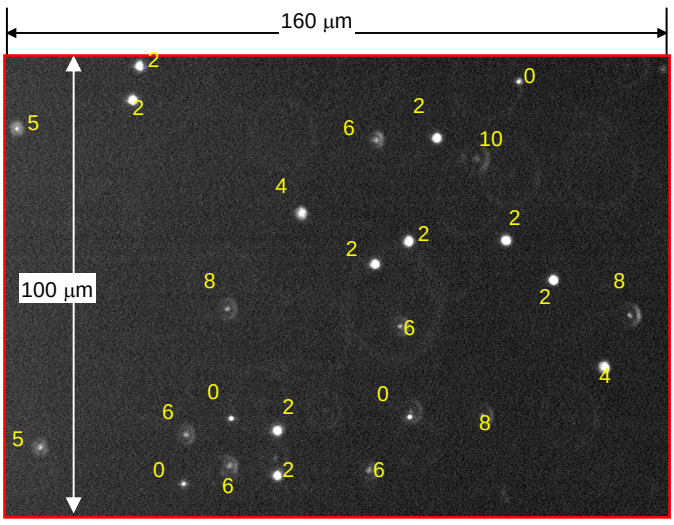
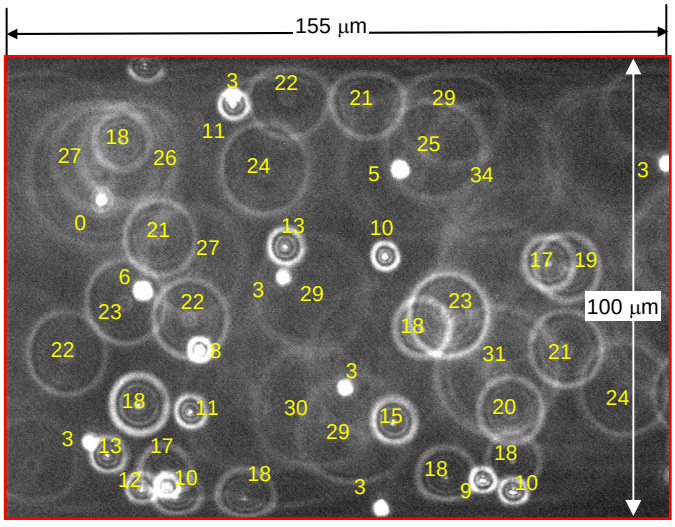
Confocal Laser Scanning Microscopy (CLSM) | **Optical Serial Sectioning Microscopy (OSSM)**



Tracking of Line-of-Sight Locations (CLSM)



Tracking of Line-of-Sight Locations (OSSM)



Nanoparticle Tracking Using CLSM* & OSSM** Imaging

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The Confocal Laser Scanning Microscopy* (CLSM) and Optical Serial Sectioning Microscopy** (OSSM) enable nano-particle tracking to locate their axial locations with a micrometer resolution. The three-dimensional diffraction patterns, so-called Point Spread Function (PSF), are theoretically predicted and experimentally validated so that the defocus distance (Δz) can be determined from the comparison of the two. A plan-fluorite objective (40X, NA 0.75) are used to detect the diffraction patterns of 500-nm fluorescence-coated polystyrene spheres suspended in the 170-μm deep micro-layer of water.