

Light Microscopy beyond the diffraction limit.

Nikons new Superresolution Microscope Systems N-SIM and N-STORM

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Superresolution Light microscopy has become a major topic of interest in research since its development and introduction as a standard research technique. The advantages of light microscopy can now be utilized even in the imaging of structures with dimensions far below the classical resolution limit of a light microscope.

This presentation will introduce two superresolution methods provided by Nikon as a pioneer in the field of superresolution: Structured Illumination Microscopy N-SIM that can overcome the classical resolution limit by a factor of two and Stochastical Optical Reconstruction Microscopy N-STORM that increases resolution 10 times. The N-STORM method exclusively implies a 3D-STORM technique that even improves the resolution in the third dimension by a factor of ten. N-SIM is well suited for Live Cell Imaging due to its relatively fast acquisition speed.

The principles of N-SIM and N-STORM technology as well as application examples will be addressed in this presentation.

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