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Unlocking simultaneous, multicolour super-resolution down to 15 nm in 3D, on a field-of-view of 150 μm x150 μm

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Abstract

Title:

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Presenter:

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Abstract:

Although 3D nanoscopy has revolutionized the field of fluorescence microscopy by reaching unprecedented resolutions, multicolor imaging remains challenging in SMLM due to several factors, including chromatic aberrations and the choice of single-molecule-compatible dyes. Olympus Europe and Abbelight have joined forces to provide researchers with the most advanced and intuitive nanoscopy imaging systems. Abbelight has recently implemented spectral unmixing for SMLM. By separating far-red dyes using a combination of the appropriate dichroic cubes and ratiometric algorithms, this technique elegantly allows simultaneous multicolor imaging in SMLM, opening up new avenues for researchers willing to push the boundaries of fluorescence microscopy. Spectral unmixing is integrated in abbelight's dedicated instrument SAFe RedSTORM, as well as in the advanced SAFe 360 module which can be combined with Olympus's confocal laser scanning platform FV3000 as well as with the IXplore imaging systems.