

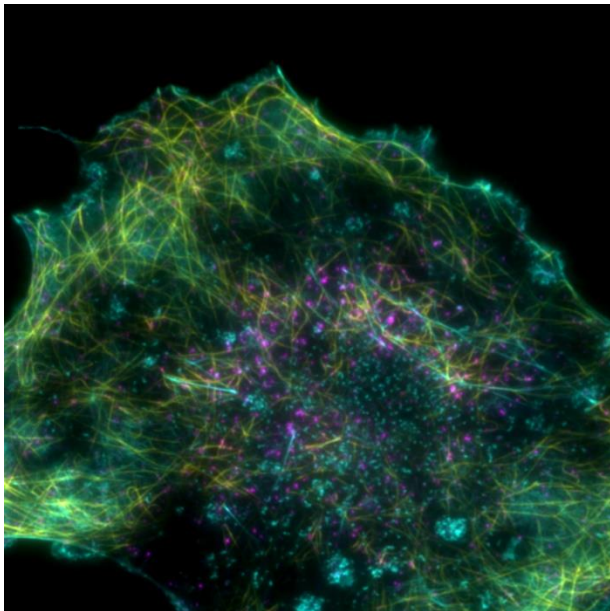
Simultaneous multicolor, quantitative and auto-calibrated TIRF imaging with the new Abbelight TIRF solution

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©Abbelight COS7 cells – Clathrin AF647 Tubulin AF555
Phalloidin AF488

TIRF (Total Internal Reflection Microscopy) illumination is often used in biology for cellular membranes studies. It is based on the total internal reflection of the light beam on the microscope slide, which induces the propagation of an evanescent wave through the first hundreds nanometers of the sample. Because of its optical section of few hundreds nanometers, TIRF microscopy allows a higher SNR comparing to classical epifluorescence microscope techniques. In operation with ultra-fast sCMOS or EMCCD cameras, it provides a good temporal sampling which can be combined with STORM (Stochastic Optical Reconstruction Microscopy) and PALM

(Photo-Activated Localization Microscopy) super-resolution techniques for an optimal spatial and temporal dynamic range.

In this workshop, we are going to introduce you to Abbelight SAFe with new TIRF, a hardware and software solution that provides optically perfect TIRF imaging, adapted to an Olympus inverted IX83 microscope with high resolution objectives. This TIRF system solution guarantees automatically calibrated and reproducible TIRF angle positions. Coupled with a multi-color optical module, it offers optimal, simultaneous imaging of biological structures with the advantages of the Abbelight ultra-widefield ASTER technology.