GATACA SYSTEMS

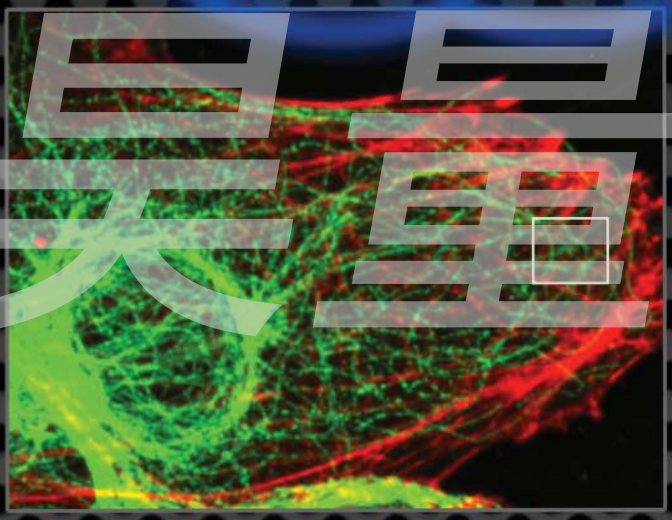
aunion 昊量光电

Microscopy systems for Lifescience and Biophysics

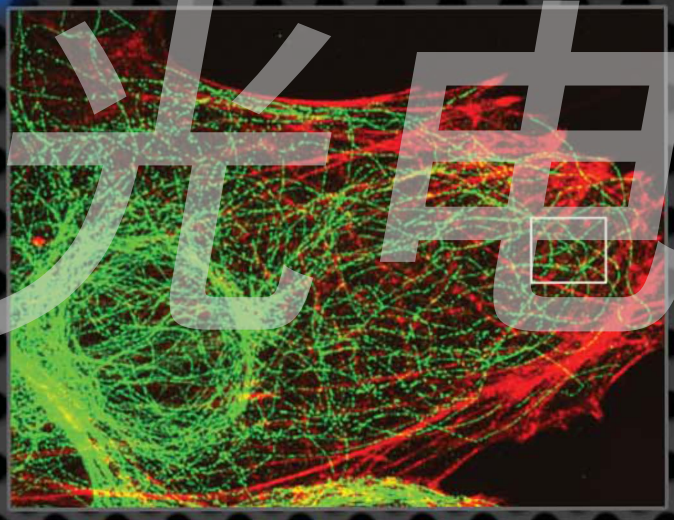
Live-SR

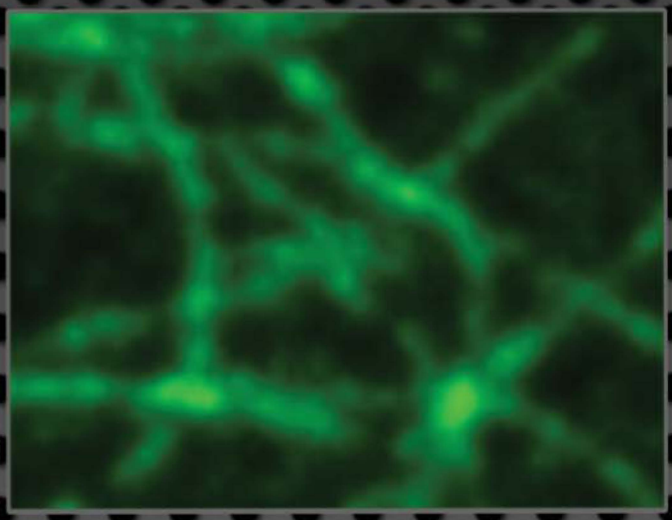
Live Super-Resolution Confocal Microscopy

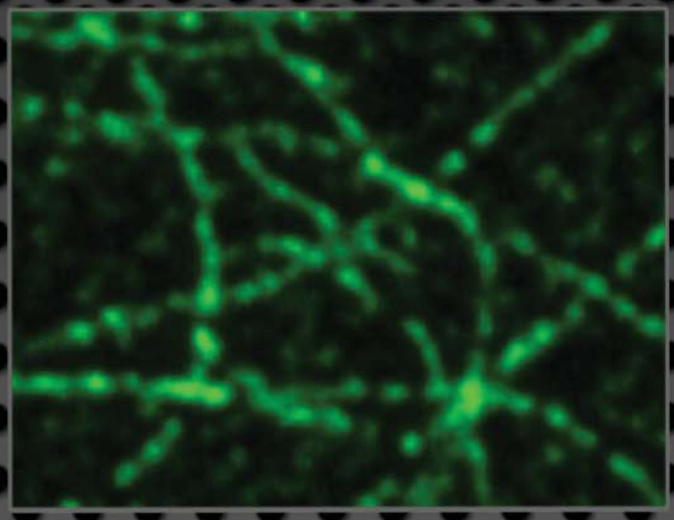
Spinning disk confocal



Spinning disk + Live-SR







Double resolution of conventional microscope up to 1000 frames / second

上海昊量光电设备有限公司 Phone: 4006-888-532 WeChat: Auniontech Website: www.auniontech.com E-mail: info@auniontech.com

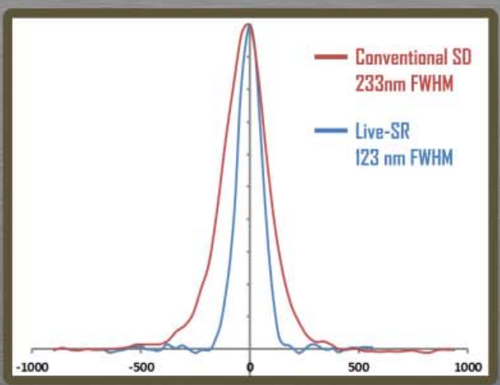
Highlights :

- Maximum resolution up to 105nm*
- Acquisition speed up to 1000 fps
- Live / Focus mode for real time
- Motorized bypass mode

- **No specific fluorophors required**
- **Low photoxicity for live imaging**
- **Up to 6 channels**
- **Simultaneous multicolor imaging (up to 4 channels)**

- Compatible with any existing research microscope
- Compatible with CCD, EMCCD, SCMOS cameras
- No expertise required
- No structured artifact

The Live-SR is based on optically demodulated structured illumination technique with online processing. Combined with spinning confocal , it enables Super-Resolution to be acheived at high speed and low photo-toxicity, making it the ideal solution for live high resolution cell imaging. Moreover, because of the nature of the light modulation, no line or pattern artifact is created.



Intensity profiles of a 100nm green fluorescent bead captured using a conventionnal spinning disk confocal microscope with or without the Live-SR system. FWHM were measured at 232.5nm and 123nm respectively.

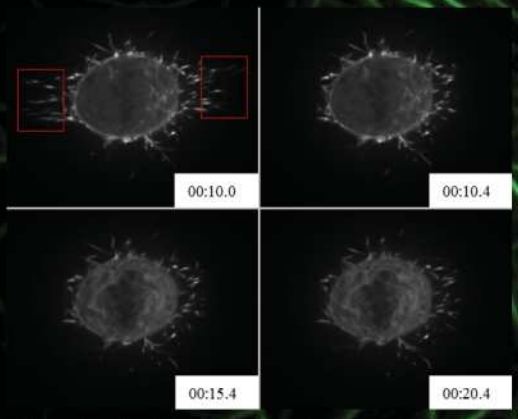
The Live-SR process can be run live during acquisition or integrated into an offline routine. Processing is parameter free making it very easy to use. Necessary data for processing are directly read from the acquisition software.

Front page legend : FluoCells® Prepared Slide #2 (BPAE cells with Mouse Anti-alpha-tubulin, BODIPY® FL Goat Anti-Mouse IgG, Texas Red®-X Phalloidin, and DAPI)

* On BFP tagged cells and in live cell conditions with 1.33 NA. Equivalent to 119 nm with GFP, 137nm with mCherry

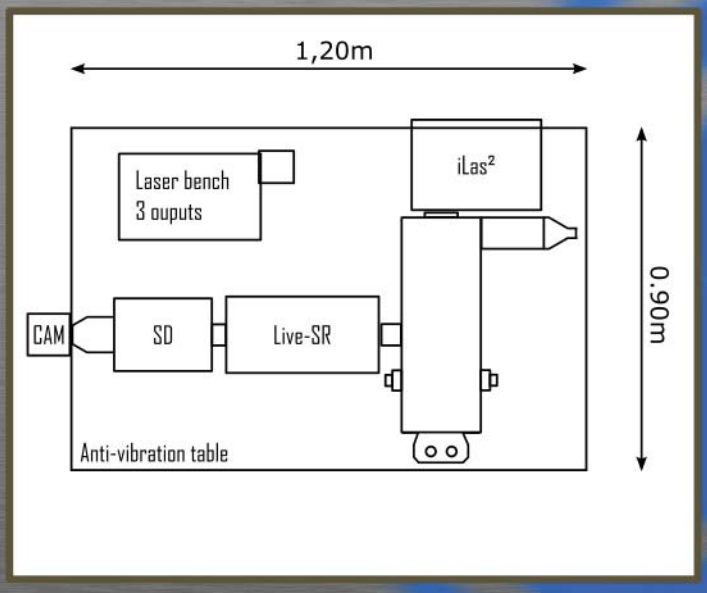
Need for FRAP, Ablation or azymuthal TIRF for PALM/STORM correlation ?

iLas series



Cells transfected with Lifeact-mCherry in which areas of actin filaments are disrupted during mitosis before chromosome segregation, using laser ablation at 355nm over the red rectangles for 0.4s. Fink et al., Nature Cell Biology.

RPE1 cells, transfected with lifeact-GFP, Dr Timothée Vignaud, Dr Laurent Blanchoin team at CEA Grenoble, France. Laser ablation at 355nm permits visualization of relaxation of a single actin stress fiber after targeted ablation. Central part of the images was enhanced for better visualization.



Camera compatibility matrix

	Pixel pitch	Magnification
CCD	4.54µm	x1 or x1.2
	6.45µm	x1 or x1.2
SCMOS	6.5µm	x1
	11µm	x1 ou x1.2
EMCCD	13µm	x1.2 or x1.5
	16µm	x2

Background picture legend : In-vitro actin polymerization. The actin filament growth starts from a longitudinal micro-pattern functionalized with an activator of nucleation. FRAP experiments have been realized to investigate the filaments polarity and growth mechanism from the imposed nucleation geometry. Image courtesy of L.Blanchoin, iRTSV/LPCV, CEA Grenoble.