LIGHT SHEET MICROSCOPE

NEW GENERATION Alpha$^3$

Ground Breaking Technology For Selective Plane Illumination Microscopy
**Alpha³**

GET THE MOST OUT OF LIGHT SHEET IMAGING

**Optimal SPIM Architecture**

SHARP OPTICAL SECTIONING

*Light sheet imaging with the ease of use of a fluorescence microscope*

**Modular**

LIGHT SHEET IMAGING FROM VERY SMALL TO LARGE SPECIMEN

*Versatile chamber & holders to accommodate a large variety of bio specimen*

**Flexible**

ADD LIGHT SHEET IMAGING TO ANY MICROSCOPE

*Turn any fluorescence microscope in a powerful light sheet imaging platform*

**Unlimited**

HIGH SPEED 3D IMAGING

*Scanning speed only limited by camera frame rate*

**Smart Scanning**

REMOTE DEPTH FOCUSING

*3D acquisition without moving the samples, vibration and perturbation free*

The chamber allows for easy sample insertion and observation with air or immersion objectives. Multiple samples holders are provided to accommodate a large variety of fixed or live sample. Special care have been paid to facilitate sample preparation and simple mounting with reliable protocols.

QtSPIM software is designed to seamlessly collect the significant volume data produced by the microscopy platform with intuitive controls for X,Y,Z,θ,T,λ image acquisition.

Mounting on coverslips, glass supports, molds for fixed or live specimen

Seamless imaging: from sample mounting to image acquisition
**ALPHA³** help you focus on your specimen studies with a state-of-the-art light sheet microscopy platform, ensuring optimum quality imaging while keeping the necessary modular configuration for your research activities.

**Designed To Meet Your Specific Requirements**

Available as:

**ALPHA³ TURNKEY SYSTEM**: whole light sheet microscope system for demanding applications, optimized for high throughput imaging and ease of use.

**ALPHA³ ADD-ON**: add Light Sheet Imaging to your fluorescence microscope, adapted to your existing equipment: Laser source, microscope stand, detection objective, camera, etc.

**ALPHA³ PARTS**: high quality components for easy integration into your customized SPIM setup.
Specifications

| Light source     | Fiber lasers CW / Laser diodes or DPSS  
|                 | Wavelength selection from 375 nm to 785nm, output power from 25 to 500mW. |
| Illumination unit| Single or dual illumination arms, fibered connection to laser sources. Objective 10X 0.25NA air (standard), 2X and 20X optional. |
| Light sheet     | Continuous light sheet using cylindrical lens  
|                 | Adjustable light sheet thickness 2 to 4µm |
| Sample chamber & Holders | Versatile chamber for sample size up to 1cm³  
|                 | Highly resistant to various corrosive medium, clearing agents, salt water, etc. Multiple holders: molds, coverlips and glass supports for small and large samples. Optional temperature and CO2 controls. |
| Detection unit  | Fluorescence microscope stand (upright or inverted): objective turret, filter wheel, eyepieces and video port |
| Detection lenses | Dipping lenses, collar lenses for refractive index matching: 10X  
|                 | 20X 40X 60X – Air objectives: 2X 5X |
| Image Sensor    | Standard: sCMOS 2048 x 248 pixels, format 13 x 13 mm, 6.5µm square pixels, Compatible with large format scientific sCMOS / EMCCD cameras² |
| Volume scanning | Standard: motorized sample scanning; scanning speed 8 images / second, range 15mm, precision 0.1µm  
|                 | Optional: ultra high speed remote focusing with ThunderScan¹ (100 images /second) |
| Software        | Supplied with QtSPIM software with acquisition parameters for stacks and time lapse acquisition. Export data to 3rd party software open source or commercial software |
| PC              | Recommended configuration: 1 PC for Acquisition and 2nd PC for data storage & image processing. Windows 7- 64bit, processor 12cores 2.3GHz, 128GB RAM, 4GB Nvidia Quadro, 4TB SSD Raid-0 |

¹See ThunderScan datasheets   ²See camera compatibility list