

LIGHT SHEET MICROSCOPE

NEW GENERATION **Alpha³**



PhaseView[®]

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

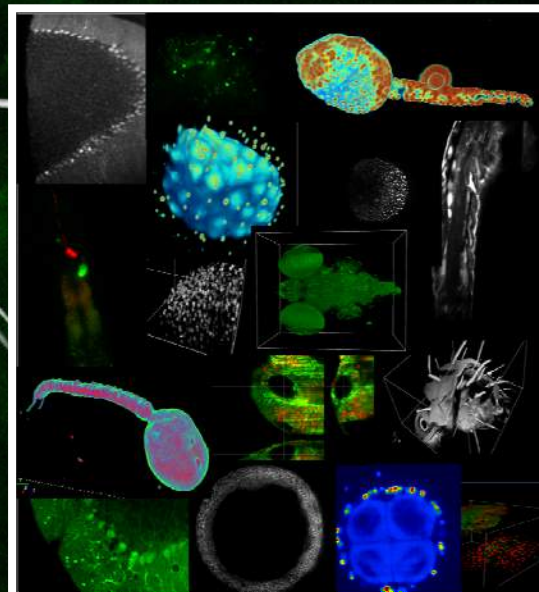
Scanning speed only limited by camera frame rate

Smart Scanning

REMOTE DEPTH FOCUSING

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

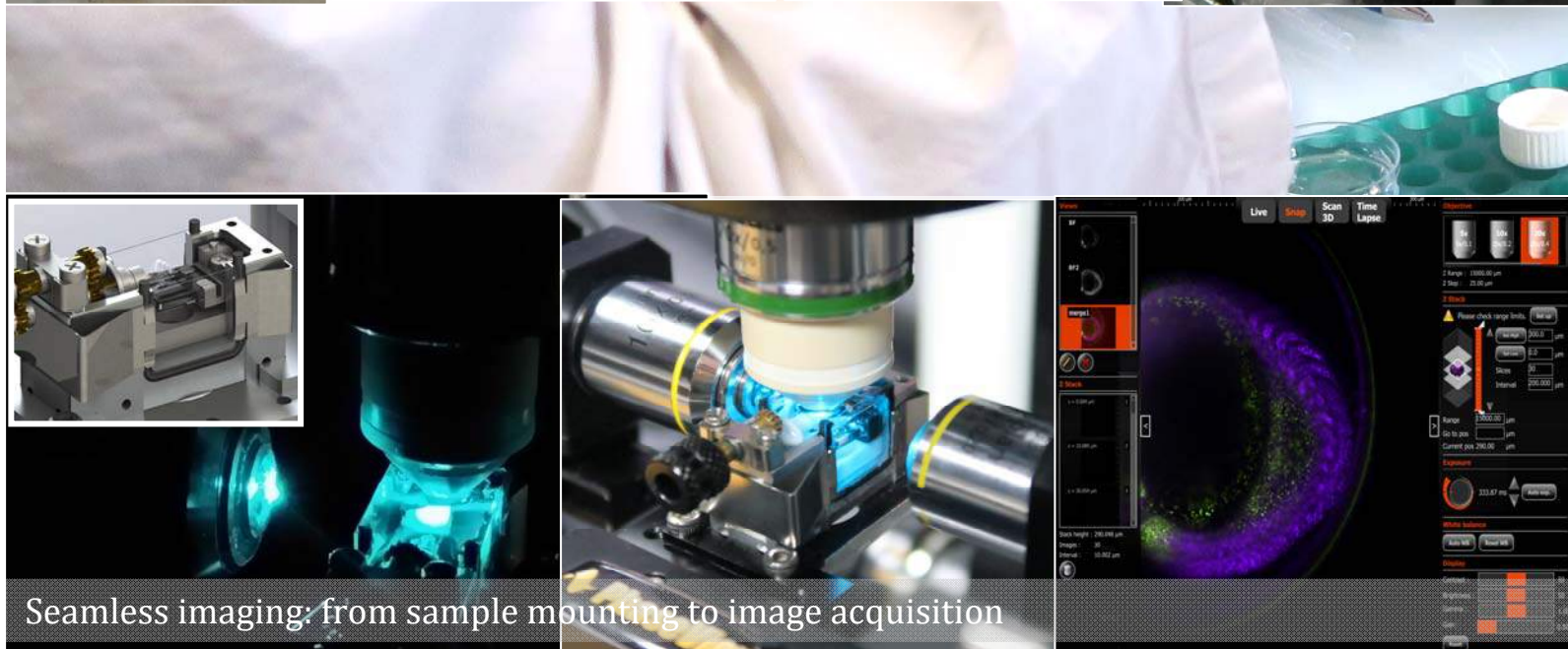
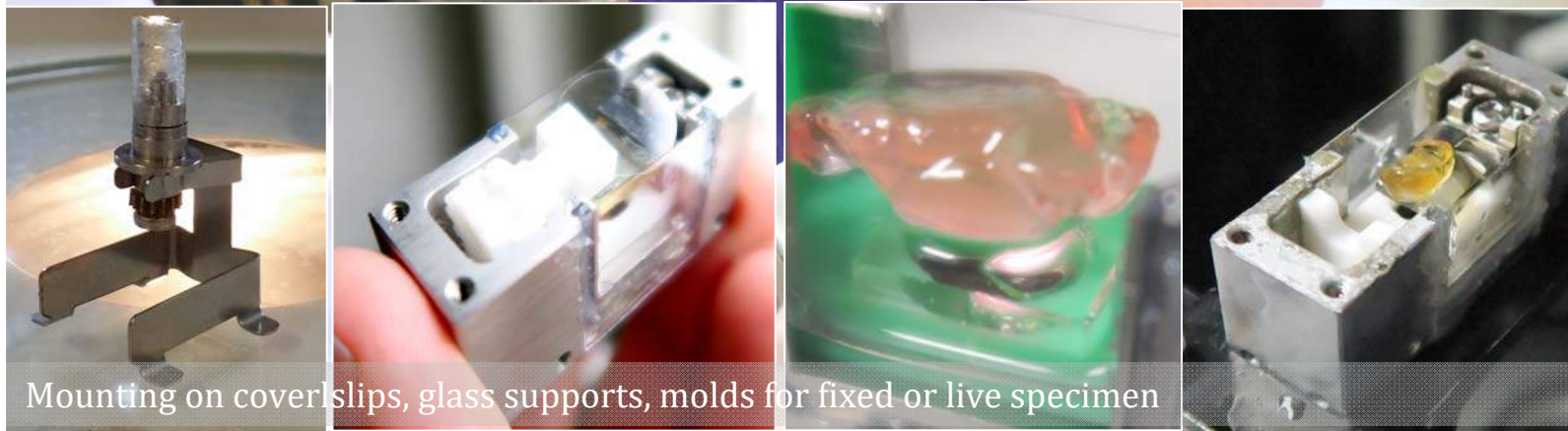
Morphogenesis and embryogenesis: *C. elegans*, *Drosophila*, Zebrafish. Fast imaging of cellular dynamics. Live imaging of 3D cell cultures. High-speed volumetric imaging. 3D functional imaging of neuronal activity. Ca⁺⁺ imaging. Fluorescence imaging of marine organisms. Electrophysiology. Plant developmental biology. Whole mouse brain imaging.

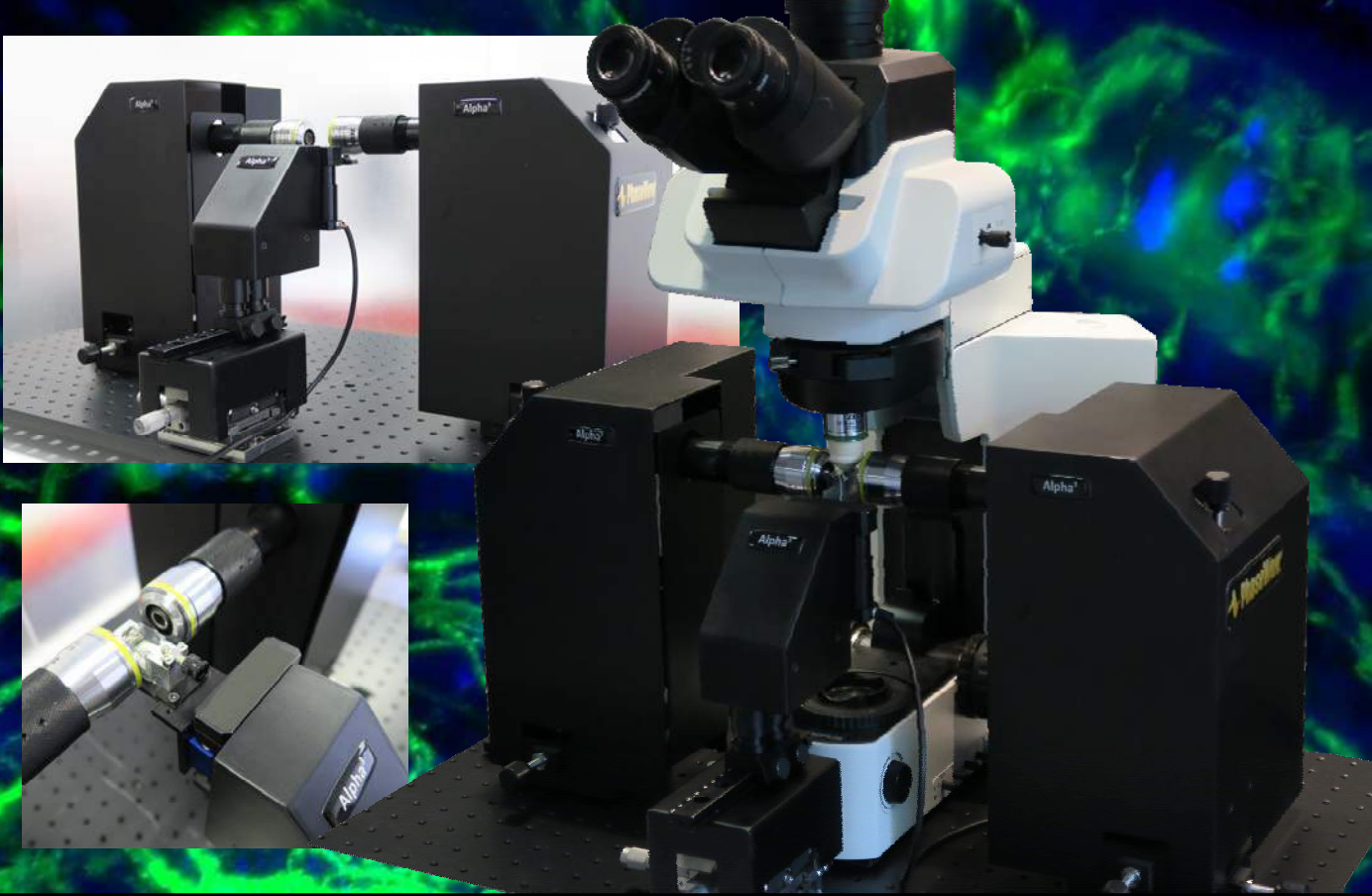


Seamless Light Sheet Microscopy Made By And For Researchers

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.





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.

Alpha³

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 1cm ³ 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 cameras ²
Volume scanning	Standard: motorized sample scanning: scanning speed 8 images / second, range 15mm, precision 0.1µm Optional: ultra high speed remote focusing with ThunderScan ¹ (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 2 nd 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

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