Commercially-available single-objective light sheet microscope
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#### Abstract

I will discuss the newly-available single-objective light sheet microscope from ASI/Applied Scientific Instrumentation in collaboration with Leica Microsystems including news since its initial announcement in December 2022. I will also discuss light sheet microscopy more generally and highlight other ASI light sheet offerings, as well as ASI-made modular microscopes in general.


ASI offers a OPM/SCAPE-type microscope system that enables 4D fluorescence imaging of biological samples at high speed and low light dose. Successful validation of the system captured microtubule dynamics with resolution of approximately 400 nm over a field of view of more than $300 \mu \mathrm{~m}$ and camera-limited frame rate.

This microscope is an ideal replacement for confocal microscopy for volumetric imaging applications. It accommodates the same sample mounting but allows for faster imaging of dynamic processes with negligible bleaching and phototoxicity.

The system is:
flexible and customizable to fit various user needs
affordable compared with alternative systems
well-suited to image cells, organoids, or cell cultures
compatible with well plates, 35 mm dishes, and chamber slides
compatible with most sCMOS cameras and laser launches
offers camera-limited frame rates and with millisecond flyback for fast volumetric imaging
compatible with a range of environmental control options
can be operated with open-source software


## References

1. https://www.asiimaging.com/products/light-sheet-microscopy/single-objective-light-sheet/
