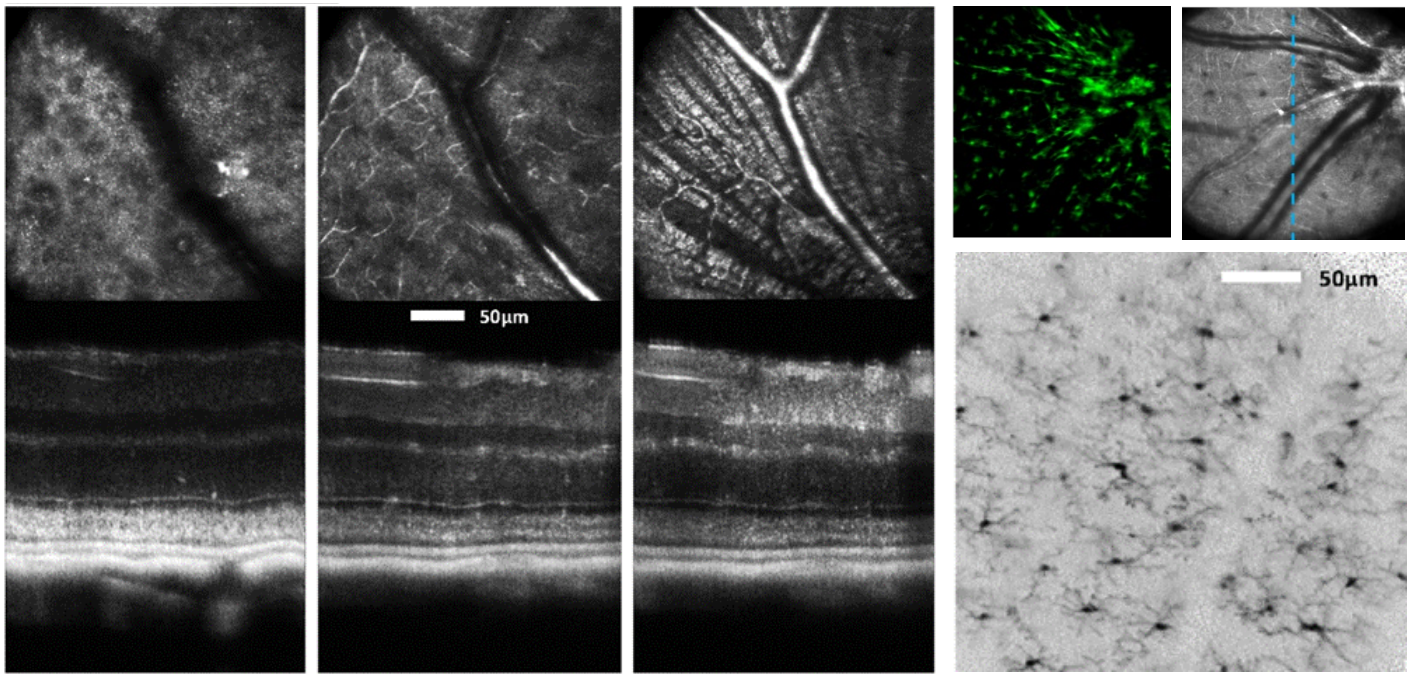
# Multi-modal Adaptive Optics Small-animal Imager (MAOSI)




*AOSLO reflectance and AOOCT simultaneously at independent focal depth. Bottom Right: GFP Microglia*

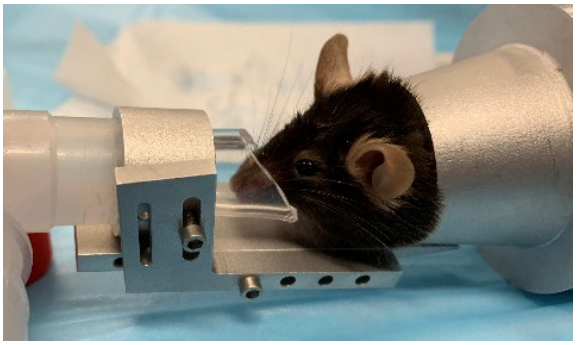
## High Resolution Imaging Of Animal Retina

Flexible, high-resolution (<1µm) benchtop confocal reflectance Adaptive Optics Scanning Light ophthalmoscope (rAOSLO) and/or fluorescence AOSLO (fAOSLO) small animal imager with simultaneous AO-OCT for routine laboratory imaging applications in animal research.

- High-contrast confocal imaging enables depth-sectioning of the inner retina for high resolution imaging of nerve fiber bundles, capillaries, blood flow, and the optic nerve head.
- Simultaneous AO-OCT B-scan / volume, and AOSLO reflectance / fluorescence imaging.
- Multi-fiber bundle for bright-field / dark-field, phase contrast imaging.

## Easy Animal Handling

- 6 degree-of-freedom goniostage with focus and pupil control.
- Heated animal holder to support the anesthetized animal body temperature at ~37 °C to prevent lens opacification.
- Low-flow anesthesia system with integrated digital micro vaporizer.



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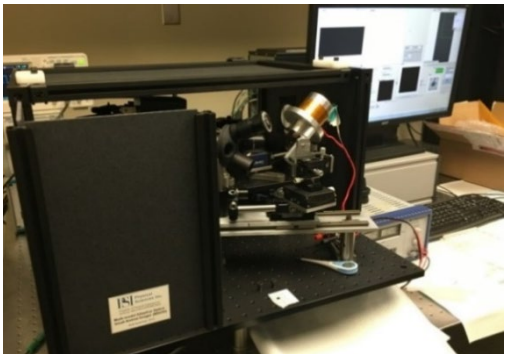
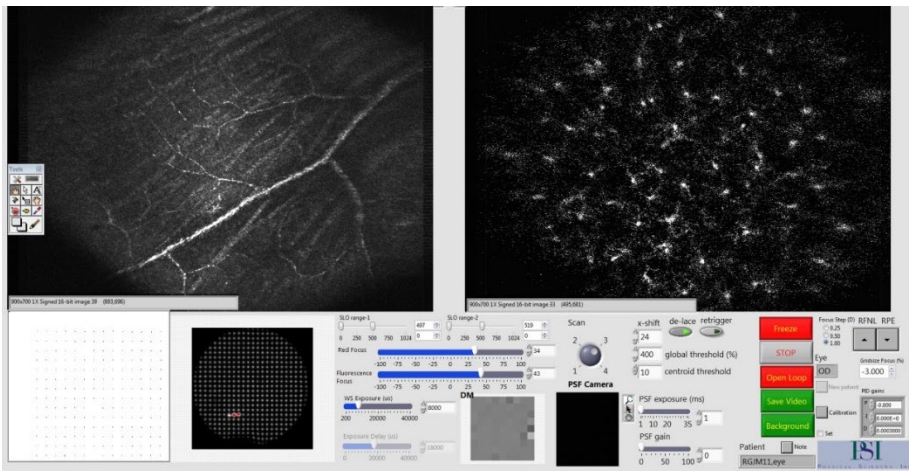
## HIGH QUALITY IMAGE VIEWING AND FAST POST-PROCESSING

Acquisition and analysis software for rapid retinal scanning, automated post-processing for alignment, averaging, and motion contrast for vasculature mapping.





*Example GUI for live visualization of confocal and fluorescence images, wavefront sensor, and instrument control.*

## CUSTOMIZED TO YOUR NEED

The MAOSI configuration is adaptable to individual user requirements. Contact PSI to discuss the potential for additional advanced control and imaging modalities

## OPTICAL DESIGN PARAMETERS

- Standard image: 640x640 pixels
- Pupil diameter: 0.5 – 5 mm
- Lateral resolution: < 1 µm
- Axial resolution: < 10 µm
- Pixel referred to retina: 1 µm (~2.4 pixels per Airy radius)
- Field size: 2° to 30°
- Full-field frame rates up to 24 fps

## COMPONENTS/FEATURES

- ALPAO DM-69
- SDOCT/Beacon
- SLO Beam
- X-Y galvo scanners for vertical SLO/OCT raster/line scans
- Multi-fiber bundle for bright-field / dark-field, phase contrast imaging
- Integrated USB point-spread function (PSF) camera for AO calibration/image quality estimation

## CONTACTS/INFORMATION


### R&D MANAGEMENT

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