

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

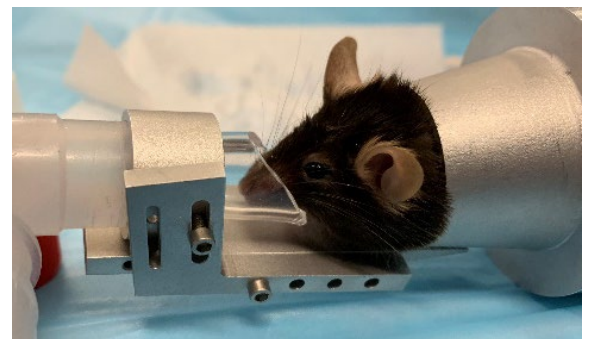
HIGH RESOLUTION IMAGING OF ANIMAL RETINA

Flexible, high-resolution ($<1\mu\text{m}$) 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

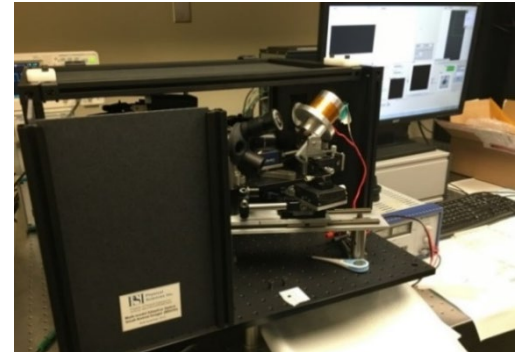
- 6 degree-of-freedom goniosstage with focus and pupil control.
- Heated animal holder to support the anesthetized animal body temperature at $\sim 37^{\circ}\text{C}$ to prevent lens opacification.
- Low-flow anesthesia system with integrated digital micro vaporizer.



HIGH QUALITY IMAGE VIEWING AND

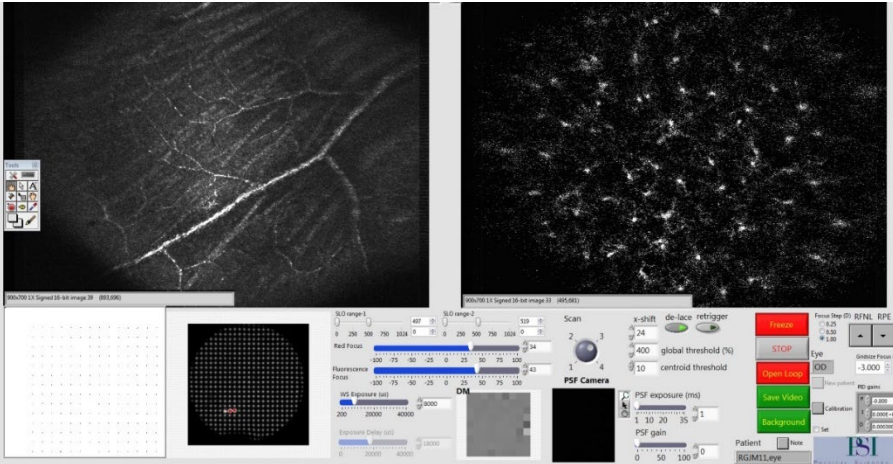
FAST POST-PROCESSING

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



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 - 5mm
- Lateral resolution: < 1 μ m
- Axial resolution: < 10 μ m
- Pixel referred to retina: 1 μ m (~2.4 pixels per Airy radius)
- Field size: 2° to 30°
- Full-field frame rates up to 24 fps
- SDOCT/Beacon
- SLO Beam
- Wavefront sensor: Dalsa Genie HC1400, 1400 x 1024, 75fps and lenslet array
- 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

- ALPAO DM-69

COMPONENTS/FEATURES

CONTACTS/INFORMATION

R&D MANAGEMENT

Dr. Nicusor Iftimia
Principal Research Scientist
Biomedical Optics Technology
Physical Sciences Inc.
Phone: 978.738.8192
Email: iftimia@psicorp.com

TECHNICAL

Dr. Mircea Mujat
Principal Research Scientist
Biomedical Optics Technology
Physical Sciences Inc
Phone: 978.738.8254
Email: mujat@psicorp.com

Website: www.psicorp.com