



The University of Toledo Advanced Microscopy & Imaging Center

The University of Toledo Advanced Microscopy & Imaging Center (UT AMIC) on the Health Science Campus is a 3,000 square foot facility designed to bring together advanced light and fluorescence microscopy systems and “state of the art” image analysis software to perform biomedical research. The Center consists of a 1,000 sq. ft. General Microscopy Laboratory that contains the following instrumentation.



Leica TCS SP5 Laser Scanning Confocal Microscope equipped with both conventional and high-speed resonance scanners. This equipment includes 5 conventional lasers plus multi-photon excitation, producing the following laser excitation lines: 458, 488, 514, 561, 633, and a tunable Ti-Sapphire MP laser 710-990nm. This system is capable of collecting up to 5 colors simultaneously for quantitative confocal image analysis in both live cell and animal imaging, fixed tissue and includes the capabilities for 3D reconstruction, FRAP and FRET, animation, stereo imaging, single layer projection, time lapse collection, and co-localization analysis.

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FluoView™ FV1000 Confocal Microscope is a next-generation imaging system designed for high-resolution, confocal observation of both fixed and living cells. The FV1000 offers advances in confocal system performance while providing the speed and sensitivity required for live cell imaging with minimal risk of damage to living specimens.



FV1000 configuration with IX81 microscope

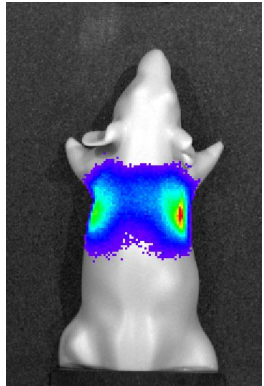
Olympus IX81 Inverted Microscope equipped for TIRF Microscopy with 3 solid state laser lines (488, 543 and 633). Instrument is run on Slidebook software and is equipped with an environmental chamber for live cell imaging.



Laser Capture Microdissection (Arcturus Pixel IIe system) Microdissection of regions of interest in specimens using the patented “capture” film coated cap design.



IVIS Spectrum whole animal fluorescence imaging system developed by Xenogen/Caliper Life Science. The IVIS Spectrum is a multimodal bioluminescent and fluorescent imaging system specifically designed for noninvasive imaging of cells and tissues in small animals. This instrument facilitates the study of biological processes via fluorescence in small animals, including tumor growth, cancer metastasis, bacterial infections, immune responses and inflammation, and regulation of tissue-specific gene expression.



A state-of-the-art Electron Microscopy Laboratory is part of the Advanced Microscopy & Imaging Center. The EM facility is directed by Dr. William Gunning who specializes in ultrastructural diagnosis of human disease and also provides research support to the University of Toledo. The EM lab is equipped with two transmission electron microscopes, one being used for clinical diagnostic purposes and the other available for use by researchers.