The Advanced Microscopy Core Facility (AMCF) at UNMC houses state-of-the-art imaging technologies ranging from super-resolution (~ 0.120 um to 0.020 um) to microscopic (~ 0.250 um) to mesoscopic (~ 5 um) biomedical imaging instrumentation. The ***Zeiss ELYRA PS.1*** is an inverted microscope for super-resolution (SR) structured illumination microscopy (SIM) and single-molecule localization microscopy (SMLM) including, PhotoActivated Localization Microscopy (PALM) using photo-switchable/convertible fluorescent proteins, Total Internal Reflection Fluorescence (TIRF), and STochastic Optical Reconstruction Microscopy (STORM). The ***Zeiss 800 CLSM with Airyscan*** is an inverted microscope dramatically increasing conventional confocal image resolution to ~180 nm using Airyscan technology. The ***Zeiss 710 LSM*** is an inverted microscope supporting most basic imaging applications, multi-channel and spectral, co-localization, live cell, 3D, and time series imaging. The ***Zeiss Celldiscoverer 7*** is a widefield imaging system for automated, time-lapse imaging of live samples. The ***Zeiss Axioscan 7*** is a high-performance whole slide scanning system for fluorescence and transmitted light imaging allowing researchers to conduct cyclic immunofluorescence studies. The ***Miltenyi Biotec Ultramicroscope II Light Sheet fluorescence microscope*** (LSFM) extends fluorescent imaging into true 3D, large-scale volumetric imaging of intact tissues, and small organs. The AMCF also houses several high-end data analysis workstations with premier image analysis software including ***HALO*** (Indica Labs) and ***IMARIS*** (Oxford Instruments) facilitating data rendering, analyses, and presentation options for complex 2D, 3D, and 4D datasets.

Contact the AMCF Director for customized letters of support for grant applications and/or additional information.

**Note this is not an all-inclusive list. Contact Director and/or Core staff (**advancedmicroscopy@unmc.edu**) to discuss individual imaging needs.**

**Additional instrument details are available on the Instruments and Services Page.**

* **Zeiss Elyra PS.1 Superresolution Microscope**
* **Zeiss LSM 800 w/ Airyscan for High Resolution Imaging**
* **Zeiss 710 Confocal Laser Scanning Microscope**
* **Zeiss Cell Discoverer 7 high Content Plate Reader**
* **Zeiss Axioscan 7 Whole Slide Imaging System**
* **UltraMicroscope II Light Sheet Fluorescence Microscope**
* **X Clarity Automated Tissue Clearing System**
* **HALO Image Analysis Workstation**
* **IMARIS Image Analysis Workstation x 2**
* **Multi-Channel Imaging in fixed or live cells (incubated stages)**
* **Dynamic Imaging: Time Series, FRAP, FRET, Spectral Imaging, 3D/Volumetric, High-Content Imaging**
* **Single Molecule Localization Microscopy (PALM, STORM), Structured Illumination Microscopy (SIM)**
* **Education: In person and on-line researcher resources**
* **Training: hands-on across imaging modalities**
* **Consultation: design, collection, analyses**