OHSU Research Cores and Shared Resources

Multiscale Microscopy Core

OHSU's cores are your campus technology partners dedicated to the success of your project. For optimal results, take advantage of the state-of-the-art scientific resources within the OHSU community.

www.ohsu.edu/cores

Electron and light microscopy technologies for measurement in four dimensions. World class imaging at your fingertips.

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Mission

The MMC's mission is to provide access, training, and services for state-of-the-art electron microscopy (EM) imaging platforms. We support researchers by enabling high-quality imaging and fostering technical expertise. Through collaboration and innovation, we advance scientific discovery across disciplines.

Instruments

The instruments in the core include five Thermo Fisher Scientific electron microscope (EM), including:

- Talos 120C equipped with a CetaM cMOS camera system
- 200 keV Glacios cryo-TEM equipped with Gatan K3 direct electron detector for analysis of the 3D structures of subcellular molecular assemblies with sub-nanometer resolution and for single particle analysis of isolated proteins for structural biology studies
- Apreo Volume Scope II Serial Block Face SEM for 3D volumetric analysis
- Helios G3 Focused Ion Beam Scanning EM (FIB-SEM) for 2D and 3D SEM studies
- Helios UC5 a FIB-SEM equipped with a Leica cryostage for cryoFIB and cryoSEM analysis of frozen hydrated samples as well, an Oxford EDS elemental analysis detection system.

These instruments meet the changing needs of life scientists while dramatically advancing multiscale imaging technologies to improve management of human disease.

Life Sciences Applications

- Structural Biology
- Cellular Biology
- Tissue Biology
- Biomaterials
- Correlative Light and Electron Microscopy

The microscopes in the MMC allow scientists to visualize the molecular and cellular compositions and architectures of cells and tissues at sizes from Ångströms to millimeters. Studies might focus on single proteins, intracellular locations of signal transduction complexes to cellular compositions of normal and diseased tissues and pathway activities of individual cells within tissues. Our volume EM platforms offer fast 3D visualization of biological samples at different voxel resolutions.

For More Information

www.ohsu.edu/mmc

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