

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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Location

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Introduction

The MMC provides access to state-of-the-art electron microscopy (EM) imaging platforms including a Helios NanoLab™ 660 DualBeam™ and Teneo VS Serial Block Face (used for high resolution 2D and automated 3D image acquisition); a Titan™ Krios™ Cryo-Transmission Electron Microscope (which is an automated TEM platform optimized for Single Particle Acquisition, 3D and cryo tomography); a Tecnai Spirit with iCorr (the world's first commercially available microscope which integrates light and TEM capabilities); and a CorrSight fluorescent microscope with cryo imaging capabilities (designed for correlative light and electron microscopy workflows).

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

Life Sciences Applications

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

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, cellular compositions

of normal and diseased tissues and pathway activities of individual cells within tissues. The Helios NanoLab and Teneo VS offer fast 3D visualization of biological samples at different resolutions.

Collaborations with OCSSB faculty and private sector partners are encouraged. These interactions will enable MMC users to collaborate with scientists with expertise in genome analysis, electron microscopy, super resolution and conventional fluorescence microscopy, high throughput, high content imaging, sample preparation, new chemistries for cell staining, statistics, petabyte scale data management and analysis, image visualization, and feature extraction.

Use of the MMC and collaboration with OCSSB scientists will enable scientists to understand the multiscale organizations of normal cells and tissue and to study how genomic and epigenomic changes disrupt this organization in ways that lead to diseases including cancer, cardiovascular disease, neurodegeneration, and immune system dysfunction.

For More Information

www.ohsu.edu/mmc

Additional information is available at:

www.ohsu.edu/ocssb