

Establishment and Maintenance the Interactive, Collaborative, and Research Driven Microscopy Laboratory

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With the rapid development of various microscopy technologies and methods, centralized research resource facilities that provide access to advanced instrumentation, and professional expertise are important to provide cutting-edge imaging technologies to the research community. The Microscopy Core Laboratory at New York University (NYU) Grossman School of Medicine established in 2005 in the Skirball Institute, which utilizes existing two aged electron microscopes to provide, for the first time, electron microscopy services to the researchers in our school. As this Core evolved over the past 17 years, its name was changed from the Electron Microscopy Core to the Image Core after adding services in light microscopy when we became a part of the school-wide Core Facilities, to the Microscopy Laboratory now administered by the Division of Advanced Research Technologies (DART) under the Office of Science and Research (OSR).

Our six current staff members provide training and education not only for 8 widefield microscopes, 5 confocal/multiphoton microscopes, 2 transmission electron microscopes and one scanning electron microscope, but also maintain and oversight light microscopes on campus, which include annual service contracts with the Department of Pathology, the Department of Cell Biology, the Skirball Institute, and the Perlmutter Cancer Center. We also provide a full service for electron microscopy from sample preparation to imaging, as well as image analysis, grant applications, publications, and data management for both light and electron microscopy. Both light and electron microscopy staff work together to insure optimum workflow for three-dimensional microscopy and correlative light and electron microscopy.

Microscopy Core operates on a first-come, first-served basis, and all microscopes are available 24/7. Access and billing are managed with an affordable charging structure through iLab, a comprehensive transparent scheduling, workflow, and billing database used internationally by academic cores. Facility recognition and publication authorship are also implemented in iLab registration process. Current microscopy services include 190 NYU laboratories and 50 external academic institutions and industries. As a part of administration effort, we are involving in negotiation of school-wide purchase of the microscopes and service contract. With well-established core facilities at NYU, we constantly build Core team for cross-core collaboration, and reorganize the core facility as its need for management.