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Description of the Facility

Background Overview
The BioImaging Facility at Hunter College is centered in a multi-room facility of 1024 sq. ft. located in the Biological Sciences Department on the 8th Floor of Hunter North building. A satellite facility also includes a number of instruments on the 4th Floor of the Belfer Research building (at 69th Street and York Ave). Faculty and students have access to a broad spectrum of instruments, ranging from simple white light wide-field microscopes to fluorescent multidimensional super-resolution and confocal imaging systems. The Faculty supervisor and Scientific Director is Dr. Diana P. Bratu. Dr. Lloyd Williams is the Managing Director of the facility. The facility staff has expertise in many areas of microscopy including the laser scanning confocal microscopy, super-resolution microscopy, two-photon microscopy. They are also familiar with many image analysis software packages, including, Imaris, Volocity, Autoquant, MetaMorph, and NIS-Elements. Detailed descriptions of the equipment in the facility is given below. All equipment is located at Rm 826 HN or at the 4th floor of the Belfer Research Building where designated

Instruments
**Nikon Eclipse Ti, TIRF/SIM**

The Nikon TIRF SIM microscope allows the users to do both Total Internal Reflection Microscopy and SIM super-resolution microscopy. The acquisition software is Nikon NIS-Elements.

The charge for this instrument is $20/hr.

To book time, use the SharePoint Calendar at [http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/TIRF%20SIM%20Calendar/calendar.aspx](http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/TIRF%20SIM%20Calendar/calendar.aspx)

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**Belfer Nikon A1 Confocal Microscope**

The Nikon A1 Confocal microscope is Nikon’s powerful fully-automated confocal imaging system, capable of capturing high-resolution images with high sensitivity. It is equipped with powerful lasers and an Andor iXon EMCCD camera. The acquisition software is NIS-Elements.

The system is located at Belfer Research Building.

The charge for this instrument is $20/hr.


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**Nikon Eclipse Ti Mosaic System for FRAP**

The Nikon Eclipse Ti scope is a wide-field fluorescent microscope. It is equipped with Andor iXon EMCCD camera and a DG5000. This system is used for FRAP (Fluorescence Resonance Energy Transfer) and other imaging needs. It is equipped with an Andor Mosaic/MicroPoint system for Optogenetics, Opto physiology, photobleaching/activation and uncaging applications.

The charge for this instrument is $15/hr.

To book time on this system use the Sharepoint Calendar at [http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/Nikon%20Eclipse%20Ti%20With%20Ultra%20High%20Speed%20Wavelength/calendar.aspx](http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/Nikon%20Eclipse%20Ti%20With%20Ultra%20High%20Speed%20Wavelength/calendar.aspx)
The UltraView is a spinning disk confocal microscope equipped with five laser lines, which allow visualization of GFP, RFP, YFP, and DsRed. It is used for high-speed, multiple-probe, time-lapse experiments; NIS-Elements software is used for image acquisition and analysis.

The charge for this instrument is $20/hr.

To book time on this system use the SharePoint Calendar at http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/Spinning%20Disk%20Calendar/calendar.aspx

The TCS SP2 Laser Scanning Spectral Confocal Microscope can do measurements of transmitted light, fluorescence and laser scanning fluorescence imaging.

The charge for this instrument is $20/hr.

To book time on this system use the SharePoint Calendar at http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/Leica%20Confocal%20Calendar/calendar.aspx

The calcium ratio imaging system consists of: a Nikon Eclipse TE 200 inverted epifluorescence microscope, a Sutter Lambda 900 spectrophotometer, a Lumina M96 microplate reader, a Fluostar OPTIMA multimode microplate reader, a Fluorescence Lifetime Imaging Microscope, and software for image analysis.

The system also is equipped with a Narishige micromanipulator system.

The charge for this instrument is $10/hr.

To book time on this system use the Calcium Imager SharePoint Calendar at http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/Calcium%20Imager%20Calendar/calendar.aspx
The Belfer Nikon Ti-S Fluorescence Microscope has a SOLA Light Engine solid state light source and a Nikon DigiSight camera. It features filter sets for DAPI FITC and RFP. The charge for this instrument is $5/hr.

The JEOL JEM-100C/CX Transmission Electron Microscope is an advanced high-performance electron microscope. It can achieve up to 600,000X magnification and utilizes a 10M-pixel HAMAMATSU C4742-95 digital camera for high-resolution image acquisition.

The Nikon Eclipse E400 Color Image Analysis System consists of an upright microscope, a Nikon DXM 1200F high-resolution digital camera, and Nikon Imaging Software. Adobe Photoshop is also installed for image acquisition and manipulation. The charge for this instrument is $5/hr.
Imaris Imaging Station

The Imaris Imaging station is a high-power workstation with Bitplane’s Imaris Imaging software installed. Imaris provides functionality for the visualization, segmentation, and interpretation of 3D and 4D microscopy datasets.

The charge for this instrument is $10/hr.

To book time on this system use the Imaris SharePoint Calendar at http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/Imaris%20Calendar/calendar.aspx

NIS-Elements Imaging Station

This Imaging workstation is a high-power workstation with Nikon’s NIS-Elements Imaging software installed. NIS-Elements provides cutting edges tools for image manipulation and data management.

The charge for these instruments is $5/hr.

To book time on these systems use the Bioimaging SharePoint Calendar at:
http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/NIS%20Elements%20Calendar/calendar.aspx

Autoquant and NIS-Elements Imaging Analysis Station

This Imaging workstation has both AutoQuant and Nikon’s NIS-Elements Imaging software installed. AutoQuant is used to deconvolve images acquired in the facility.

The charge for this instruments is $10/hr.

To book time on these systems use the Bioimaging SharePoint Calendar at:
Belfer NIS-Elements Analysis with Deconvolution

This Imaging workstation has Nikon's NIS-Elements Imaging software installed. Additionally, it has Element's deconvolution module installed.

The charge for this instruments is $5/hr.

Gemini EM Microplate Spectrofluorometer

The Molecular Devices SpectraMax Gemini EM Microplate Spectrofluorometer features top and bottom reading optics, dual wavelength scanning, well scanning, auto PMT gain and is driven by Softmax Pro software on a Windows-based controller.

The charge for this instrument is $5/scan.

Amersham Biosciences Typhoon 9410

Typhoon is a highly sensitive variable-mode gel imager. The Typhoon 9410 unites the ability to detect autoradiography technology and direct imaging of chemiluminescence. The typhoon can also be used to analyze microarrays.

The charge for this instrument is $5/scan.
Typhoon FLA 7000 is a fast laser scanner for biomolecular imaging applications including sensitive and quantitative measurements of radioisotopic labels, chemifluorescent Western blots, and single fluorescence.

The charge for this instrument is $5/scan.

The Odyssey Infrared Imager replaces traditional methods of analyzing western blots, chemiluminescence, and fluorescence with infrared detection. Equipped with two infrared channels (700 nm and 800 nm), it can thus probe two different targets in the same experiment.

The charge for this instrument is $5/scan.

PowerWave HT Microplate Spectrophotometer is a multi-channel reader for maximum speed in both 96- and 384-well plate formats. The instrument is equipped with kinetic and spectral scanning modes. Powerful Gen5 PC-based software is used for system control and data analysis.

The charge for this instrument is $3/scan.