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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
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

The Nikon A1 Confocal microscope is Nikon’s powerful fully-automated confocal imaging system, capable of capturing data with high lateral and axial resolution at speeds never before achieved. With enhanced sensitivity, the A1 delivers a new level of performance and flexibility. The acquisition software is NIS-Elements. The system is located at Belfer Research Building. The charge for this instrument is $20/hr. To book time use the SharePoint Calendar at http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/Nikon%20A1%20confocal%20microscope%20Belfer%20Building/calendar.aspx

The Nikon Eclipse Ti scope is a wide-field fluorescent microscope. It is equipped with Andor iXon EMCCD camera and a DG5000 laser. The system is also equipped with an Andor Mosaic/MicroPoint system for Optogenetics, Optophysiology, 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%20Ultima%20High%20Speed%20Wavelength/calendar.aspx
Perkin Elmer UltraView ERS
The UltraView is a spinning disk confocal microscope equipped with five laser lines, which allow visualization of GFP, RFP, YFP, and multiple other fluorescent proteins. It is also capable of performing 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

Leica Confocal Microscope TCS SP2
The TCS SP2 Laser Scanning Spectral Confocal Microscope can be used for measurements of transmitted light, fluorescence, and laser scanning fluorescent 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

Nikon Eclipse TE 200 Calcium Ratio & Micro Injection
The calcium ratio imaging system consists of: a Nikon Eclipse TE 200 inverted epifluorescence microscope, a Sutter Lambda fluorescence imaging system, a Nikon Eclipse 50i epifluorescence system, an Andor streak camera, a ThorLabs photon counting streak camera, a Neuralynx digital acquisition system, and Calcium & FRET plug-in imaging software. The system is also 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 Nikon Ti-S microscope has a SOLA Light Engine solid state light source and a Nikon DigiSight camera.

The JEOL JEM-100C/CX transmission electron microscope is an advanced high-performance electron microscope.

The Nikon Color Imaging system consists of a Nikon Eclipse E400 upright microscope, and Nikon DigiSight camera.
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-edge 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 instrument is $10/hr.
To book time on these systems use the Bioimaging SharePoint Calendar at: http://biosharepoint.hunter.cuny.edu/Bio-Imaging/Lists/Drobo_PC%20NIS%20Elements%20Calendar/calendar.aspx
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 instrument is $5/hr.

Gemini EM Microplate Spectrofluorometer
The Molecular Devices SpectraMax Gemini EM Microplate Spectrofluorometer features top and bottom reading optics, dual excitation and emission 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 general 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.

Odyssey Infrared Imager

The Odyssey replaces traditional methods of analyzing western blots, chemiluminescence, and fluorescence detection. It is equipped with two infrared channels at 700 nm and 800 nm, allowing for the probing of two different targets in the same experiment.

The charge for this instrument is $5/scan.

PowerWave HT Microplate Spectrophotometer

PowerWave HT is a multi-channel reader for maximum speed in both 96- and 384-well plate formats. The instrument is capable of kinetic and spectral scanning modes, offering powerful Gen5 PC-based software for system control and data analysis.

The charge for this instrument is $3/scan.
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Last Updated Thursday, 20 September 2018 14:30

The max specimen size is 55 X 70 mm and can cool samples down to -50°C.

Laser wavelength specifications for various instruments

- **Solid State Laser**
  - 405 nm
  - 473 nm
  - 640 nm
  - SYAG laser

- **Nikon Eclipse Ti Mosaic/MicroPoint System & FRAP Room 826 HN**
  - 405 nm
  - 488 nm
  - SIM module

- **TIRF Module**
  - 440 nm
  - 514 nm
  - 488 nm

- **PE Spinning-disk Room 826 HN**
  - 405 nm
  - 561 nm

**Applications**

- **ELISAs and Immunoassays**
- **Image Analysis**
- **Western blot sample analysis**
- **Nucleic Acid Quantitation**
- **Proliferation, and Cytotoxicity Enzyme Assays**
- **Reporter Gene Assays**

**Detection Mode**

- **Read Mode**
- **Quantitative Western**
- **Fluorescence**

**Range**

- 200-999 nm
- 300-650 nm
- 100-400 nm

**Other instruments**

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