Managing Director
Dr. Lloyd Williams
Email: williams@genectr.hunter.cuny.edu
Office: 826B in the Hunter North Building
Phone: (212) 650 3872
Fax: (212) 650 3565
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

Belfer Nikon A1 Confocal Microscope

The Nikon A1 Confocal microscope is Nikon's powerful fully-automated confocal imaging system, capable of capturing images with high resolution, high contrast, and enhanced sensitivity. 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

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 shutter. The microscope 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, fluorescein, and rhodamine. It is capable of 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/SpinningDiskCalendar/calendar.aspx

Leica Confocal Microscope TCS SP2

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/LeicaConfocalCalendar/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 900 monochromator, a BioRad Pico-920 ion meter, a BioRad Laboratories’ 1200 Capillary electrophoresis system, and a Nikon Digitizer. The system also is equipped with a Narishige micromanipulator system. The Calcium Imaging software offers a spectral imaging platform for quantification of intracellular calcium and ratiometric imaging using a 510 nm excitation wavelength.

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/CalciumImagerCalendar/calendar.aspx
Belfer Nikon Ti-S Fluorescence Microscope

The Nikon Ti-S microscope has a SOLA Light Engine solid state light source and a Nikon DigiSight camera. It has filter sets for DAPI, FITC, and RFP. The charge for this instrument is $5/hr.

JEOL JEM-100CX Transmission Electron Microscope

The JEOL JEM-100CX/100CXL transmission electron microscope is an advanced high-performance electron microscope. It is equipped with a transmission electron microscope, and Nikon DigiSight camera. The microscope has a resolution of 1000X. A 10M-pixel HAMAMATSU C4742-95 digital camera is integrated into the system for high-resolution image acquisition.

Nikon Eclipse E400 Color Image Analysis System

The Nikon Color Imaging system consists of a Nikon Eclipse E400 upright microscope, and Nikon DigiSight camera. The system utilizes Nikon Imaging Software. The system also has Adobe Photoshop installed for image acquisition and manipulation.
The Imaris Imaging station is a high-power workstation with Bitplane’s Imaris Imaging software installed. 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

The NIS-Elements Imaging Station is a high-power workstation with Nikon's NIS-Elements Imaging software installed. 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

The Autoquant and NIS-Elements Imaging Analysis Station has both AutoQuant and Nikon's NIS-Elements Imaging software installed. 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/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.
Belfer GE FLA 7000 Typhoon

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. It is equipped with two infrared channels 700 nm and 800 nm, and can thus probe 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 HT is specifically designed for kinetic and spectral scanning mode. Powerful Gen5 PC-based software is used for system control and data analysis.

The charge for this instrument is $3/scan.
Solid State Laser
- 640 nm
- 405 nm
Solid State Laser
- 561 nm
Syngene 2D/3D Microplate Reader
- SYCAMO
- SYAG laser
- 457, 488 nm
- 561 nm
Leica SP2 Confocal, Room 826 HN
- 488 nm
- 561 nm
PerkinElmer Spinning Disk Microscope
- 405 nm
- 488 nm
- 561 nm
- 60x/1.4/oil
- 40x/0.6
- 4x/0.1
- 4x/0.13
Leica CM 3050S Cryostat
- 10x/0.45
- 4x/0.1
- 4x/0.13
- 60x/1.49/oil
Gemini EM
- 100x/1.49/oil
- 50x/0.93
- 20x/0.8
- 4x/0.1
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