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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

Belfer Nikon A1 Confocal Microscope

The Nikon A1 Confocal microscope is Nikon's powerful fully-automated confocal imaging system, capable of capturing images from the visible to near infrared spectrum 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 diode laser. It 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 Cy5 to make measurements of multiple fluorophores with high speed. The system 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/Spinning%20Disk%20Calendar/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/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 900 spectrophotometer, a Sutter OPMI Stereo microscope, and a Bioptechs aluminum platform used for microinjection. The system also is equipped with a Nikon eclipse E600FL fluorescence microscope and a Coolsnap HQ monochrome digital camera, which is used for imaging software with Calcium & FRET plug-in. 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
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 II Transmission Electron Microscope

JEOL JEM-100CX II transmission electron microscope is an advanced high-performance electron microscope with stable and high-resolution imaging capabilities. 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 DXM 1200F high-resolution digital camera with fast frame rates. The system utilizes Nikon Imaging Software. The system also has Adobe Photoshop installed for image acquisition and manipulation. The charge for this instrument is also $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-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.

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.
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, chemiluminescent 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. It features a 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.
Synchrotron light scattering

Bio-Imaging Facility - Biology

Last Updated Thursday, 20 September 2018 14:30

1. Sample preparation
   - Ship the sample slide or living samples with proper package.
   - Contact us by email for scheduling a remote microscopic imaging experiment, including, a
     - In-cell Western Assay
     - ELISA/FLISA
     - On-cell Western Assay
     - Transporter Assays
     - Phosphatases/Kinases
     - Microbial Growth
     - Protein Quantitation
     - Nucleic Acid Quantitation

2. Instrument Descriptions
   - **Syntech Instruments SYN2000**
     - Wavelengths: 200-999 nm
     - Range: Absorbance
     - Sample Type: 96 & 384-well plate
   - **Syntech Instruments SYN2000**
     - Wavelengths: 405-488 nm
     - Range: Fluorescence
     - Sample Type: 96 to 384-well plate
   - **Syntech Instruments SYN2000**
     - Wavelengths: 532 nm/633 nm
     - Range: Photoluminescence
     - Sample Type: 96 to 384-well plate
   - **Syntech Instruments SYN2000**
     - Wavelengths: 561 nm
     - Range: Phosphorimaging Chemiluminescence
     - Sample Type: Western blot sample
   - **Syntech Instruments SYN2000**
     - Wavelengths: 640 nm
     - Range: Fluorescence
     - Sample Type: 96 & 384-well plate

Our service includes:

- **PVX** video conferencing for real-time consultation: during imaging experiments, PVX
- **Microscope remote control**: Webex is used to set up the remote desktop sharing for
- **Perkin Elmer spinning disk microscope**: besides regular 2D & 3D fixed slide scanning,
- **Leica SP2 confocal microscope**: ideal for regular 2D & 3D scanning for fixed slide

We charge:

- **Remote instrumentation service**
  - Imaris Analysis Workstation:
  - Elements Analysis Workstation:
  - Gemini Spectrophotometer, Typhoon 9410 Imager
  - Leica CM 3050S Cryostat:
  - Nikon A1R Resonant Confocal (Room Belfer BB 453)
  - 561 nm Argon Ion Laser
  - 640 nm Solid State Laser
  - 561 nm Solid State Laser
  - SIM module
  - 640 nm 488 nm Solid State Laser
  - 405 nm Solid State Laser
  - PE Spinning-disk (Room 826 HN)
  - 633 nm 458, 476, 488, 514 nm Argon Ion Laser

Special Rate Policy:

- In any 24 hour period
- For example, Monday 12-4pm, Tues 9-1pm.
- After Monday's session, the user may schedule

Remote access to advanced confocal microscopes for imaging purposes:

- **Remote access to advanced confocal microscopes**
  - Now available for remote users to access advanced confocal microscopes remotely.

Disparities (MD007599) of the National Institutes of Health.

A Luminometer is a state-of-the-art Microplate Luminometer and

Report mercury lamps in service for more than 300 hours

Equipment is available on a first come first serve basis. You can book 4 hour slots on the

K. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

J. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

I. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

H. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

G. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

F. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

E. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

D. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

C. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

B. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

A. Equipment is available on a first come first serve basis. You can book 4 hours slots on the

M. Clean oil off the microscope objective lenses after use.

Cleaning and Maintenance:

- M. Clean oil off the microscope objective lenses after use.
- K. Equipment is available on a first come first serve basis. You can book 4 hours slots on the
- J. Report mercury lamps in service for more than 300 hours
- I. Turn off all microscope lamps after use. It is particularly important to turn off the mercury
- H. Equipment is available on a first come first serve basis. You can book 4 hours slots on the
- G. Equipment is available on a first come first serve basis. You can book 4 hours slots on the
- F. Equipment is available on a first come first serve basis. You can book 4 hours slots on the
- E. Equipment is available on a first come first serve basis. You can book 4 hours slots on the
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- C. Equipment is available on a first come first serve basis. You can book 4 hours slots on the
- B. Equipment is available on a first come first serve basis. You can book 4 hours slots on the
- A. Equipment is available on a first come first serve basis. You can book 4 hours slots on the