BioImaging Facility Reopening

The facility has reopened. Below are post COVID rules.

Post COVID 19 Rules

- Reserving equipment at [http://bookit.hunter.cuny.edu](http://bookit.hunter.cuny.edu) prior to use is mandatory
- There is a 15 min buffer between bookings for any instrument
- Only one person at a time can use any instrument
- Masks must be used in the facility at all times
- Keep a 6ft distance from others while in the facility
- All users must complete the Hunter COVID screening checklist. [http://hunter.cuny.edu/covidscreening](http://hunter.cuny.edu/covidscreening) prior to coming to the facility
- Users must wipe down the equipment with an ethanol cleaning solution after each use. Ethanol spray bottle and paper towels are available in the facility

Several instruments are too close to be booked at the same time
The machines listed below should not be reserved at the same time. To check bookings use the resource calendar on the booking website

- Imaris 8.41 Imaging Station and the Imaris 9.12 Imaging Station
- Seahorse, Odyssey and BioTek PowerWave Microplate Reader
- GloMax®-96 Microplate Luminometer, Typhoon 9410 and Autoquant Deconvolution Station

When using the systems listed below please use the curtains that separate the instruments

- Nikon Eclipse Ti Mosaic System
- Nikon Eclipse TE 200 Calcium Ratio
- Leica TCS Confocal
- Perkin Elmer Spinning Disk Confocal
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.

To book time on any of the instruments go to http://bookit.hunter.cuny.edu
The Nikon Eclipse Ti, TIRF/SIM microscope allows 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.

The Belfer Nikon A1 Confocal Microscope is Nikon's powerful fully-automated confocal imaging system, capable of capturing images with high resolution 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.

The Nikon Eclipse Ti Mosaic System is a wide-field fluorescent microscope. It is equipped with Andor iXon EMCCD camera and a DG5 for optimal image quality.

An Andor MicroPoint system for Optogenetics, Optophysiology, photobleaching/activation, and uncaging applications is also available.

The charge for this instrument is $15/hr.
Perkin Elmer UltraView ERS
The UltraView is a spinning disk confocal microscope equipped with five laser lines, which allow visualization of GFP, Texas Red, Cy5, Cy3, and other fluorophores. It is particularly useful for high-speed, multiple-probe, time-lapse experiments; NIS-Elements software is used for image acquisition and analysis.

Leica Confocal TCS SP8 DLS
The Leica TCS SP8 DLS is a dual function fluorescence microscope that can be used as a conventional laser scanning confocal microscope (LSCM) or as a lightsheet fluorescence microscope (LSFM). It is suitable for imaging thick, three-dimensional samples.

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. It is equipped with a high-power laser and high-resolution detector.
The calcium ratio imaging system consists of: a Nikon Eclipse TE 200 inverted epifluorescence microscope, Sutter Lambda, and 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.

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-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 DXM 1200F high-resolution digital color camera. The system also has Adobe Photoshop installed for image acquisition and manipulation.

The charge for this instrument is $5/hr.

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.

Imaris 9.12 Imaging Station

This Imaging workstation is a high-power workstation with Nikon's NIS-Elements Imaging software installed. It also has Imaris 9.12 installed.

The charge for these instruments is $5/hr for Elements and $10 per hour for Imaris.
Autoquant Deconvolution 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.
This machine also has a floating license of Imaris 9.6
The charge for this instruments is $5/hr for Elements and $10 for Imaris.

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. This machine also has a floating license of Imaris 9.6
The charge for this instruments is $5/hr for Elements and $10 for Imaris.

Gemini EM Microplate Spectrofluorometer
The Molecular Devices SpectraMax Gemini EM Microplate Spectrofluorometer features top and bottom

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Amersham Biosciences Typhoon 9410

Typhoon is a highly sensitive variable-mode gel imager. The Typhoon 9410 unites the ability to detect an extensive range of fluorescent and chemiluminescent signal types, including biotin, DIG, peroxides, and alkaline phosphatase. It also features a built-in laser finger for gel imaging and a built-in 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 FLA

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. It is a versatile tool that can be used for a wide range of applications in molecular biology.

The charge for this instrument is $5/scan.

Odyssey Infrared Imager

The Odyssey replaces the tradition methods of analyzing western blots, chemiluminescence, and fluorescence with advanced infrared imaging technology. It is equipped with two infrared channels (700 nm and 800 nm), allowing for the simultaneous detection of two different targets in a single experiment.

The charge for this instrument is $5/scan.
Biotek PowerWave Microplate Reader
PowerWave HT is a multi-channel reader for maximum speed in both 96- and 384-well plate formats. The PowerWave HT supports absorbance, fluorescence, luminescence, or AlphaScreen/AlphaLISA measurements. Powerful Gen5 PC-based software is used for system control and data analysis. The charge for this instrument is $3/scan.

Belfer Bio Tek Synergy HTX Microplate Reader
Synergy HTX is a Multi-Mode Microplate Reader for making: absorbance, fluorescence, luminescence, or AlphaScreen/AlphaLISA measurements on 6- to 384-well microplates. The charge for this instrument is $3/scan.

GloMax®-96 Microplate Luminometer
The GloMax®-96 Microplate Luminometer is a state-of-the-art Microplate Luminometer with a high sensitivity and broad wavelength range with selectable excitation and emission. It supports scintillation, chemiluminescence, bioluminescent assays, eliminating the need to dilute samples or manage detector-driven gain changes. The charge for this instrument is $5/scan.
The Leica CM 3050S Cryostat features motorized sectioning and programmable defrost cycles. The cryostat can cut sections in the range 0.5 to 300 μm.

Remote instrumentation service

For scheduling the above remote instrumentation service, please check the following guidelines:

(i) Utilize WebEx to setup remote desktop sharing for microscope control. Please check the following link for WebEx-based remote control.

(ii) Utilize PVX monitoring system to setup Internet video conferencing for remote PVX video conferencing system is used for real-time conversations between microscope operator and the experimenter.

(iii) PVX video conferencing for real-time consultation: during imaging experiment, PVX video conferencing system is used for real-time conversations between microscope operator and the experimenter.

(iv) Cell staining protocol: a simple cell staining protocol is posted here as an example:

(v) Fluorescence Spectrometer

Now a new service is ready for our remote users to get remote access to our advanced instrumentation. This service is particularly useful for researchers who don't have access to such equipment in their own labs. It is ideal for cellular dynamic studies.

The facility charges $20 per hour for use of the confocal. There is a $15 minimum charge, and fractions of an hour count as whole hours. Please sign the log book when you use this system.

I. Turn off all microscope lamps after use. It is particularly important to turn off the mercury lamp.

II. There is a $10 minimum charge, and fractions of an hour count as whole hours. Please sign the log book when you use this system.

III. The facility is open for use by members of the CTBR, other CUNY departments, and outside parties with the prior arrangement of the staff of the Bio-Imaging facility.

IV. Your use of the facility will be recorded. For the optical microscopes and the Gel and Blot analysis package. There is a $10 minimum charge, and fractions of an hour count as whole hours. Please sign the log book.

V. The facility is available for use 7 X 24. After normal working hours (9-5 Mon-Fri) lock the door. Your key will be returned to you in the morning.

VI. The facility charges $3 per scan. Use is monitored by the event log on the computer attached to the machines.

VII. A confirmation email will be sent before the experiment date. A WebEx meeting link will be included in this email for remote connection.

VIII. Ship the sample slide or living samples with proper package.

IX. Contact emails:

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