BioImaging Facility Reopening

The facility has reopened. Below are post COVID rules.

Post COVID 19 Rules

- Reserving equipment at 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 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 instruments go to http://bookit.hunter.cuny.edu

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.

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 enhanced sensitivity. The acquisition software is NIS-Elements. The system is located at Belfer Research Building. The charge for this instrument is $20/hr.

Nikon Eclipse Ti Mosaic System

The Nikon Eclipse Ti scope is a wide-field fluorescent microscope. It is equipped with Andor iXon EMCCD camera and a DG5 for electrophysiology, and an Andor Mosaic/MicroPoint system for Optogenetics, Optophysiology, photobleaching/activation and uncaging applications. 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, RFP, and other fluorophores.

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). This machine is in 809HN and the charge for this instrument is $20/hr.

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.

Leica Confocal Microscope TCS SP2
Nikon Eclipse TE 200 Calcium Ratio & Micro Injection

The calcium ratio imaging system consists of: a Nikon Eclipse TE 200 inverted epifluorescence microscope, Sutter Lambda 10-2 photoinjection system, Fluoview 1000F 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.

Belfer Nikon Ti-S Fluorescence Microscope

The Nikon Ti-S microscope has a SOLA Light Engine solid state light source and a Nikon DigiSight digital camera. It has filter sets for DAPI FITC and RFP.

The charge for this instrument is $5/hr.

JEOL JEM-100CX/100C/CX Transmission Electron Microscope

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 DXM 1200F high-resolution digital camera. The system also utilizes Nikon Imaging Software. 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.

The Imaris 9.12 Imaging Station 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. 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 instrument is $5/hr for NIS-Elements and $10 for Imaris and AutoQuant.

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 instrument is $5/hr for NIS-Elements and $10 for Imaris.

Gemini EM Microplate Spectrofluorometer
The Molecular Devices SpectraMax Gemini EM Microplate Spectrofluorometer features top and bottom reading optics, dual excitation and emission scanning, variable 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 radiolabeled proteins by 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 with infrared techniques. It is equipped with two infrared channels (700 nm and 800 nm), allowing for the simultaneous probing 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 utilizes powerful Gen5 PC-based software for system control and data analysis.

Charge for this instrument: $3/scan

Belfer Bio Tek Synergy HTX Microplate Reader

Synergy HTX is a Multi-Mode Microplate Reader for making: absorbance, fluorescence, luminescence, and AlphaScreen/AlphaLISA measurements on 6- to 384-well microplates.

Charge for this instrument: $3/scan

GloMax®-96 Microplate Luminometer

The GloMax®-96 Microplate Luminometer is a state-of-the-art Microplate Luminometer with high sensitivity and broad dynamic range. It is configured for making: absorbance, fluorescence, luminescence, and bioluminescent assays, eliminating the need to dilute samples or manage detector-driven gain changes.

Charge for this instrument: $5/scan
The max specimen size is 55 X 70 mm and can cool samples down to -50°C.

Our service includes:

- Fluorescence Spectrometer
- HT Plate Reader
- Leica SP2 confocal microscope
- Nikon Eclipse Ti With Ultra High-Speed Wavelength Source
- Nikon Upright
- Gemini Spectrophotometer, Typhoon 9410 Imager

The facility charges $20 per hour for use of this microscope. There is a $15 minimum charge, and fractions of an hour count as whole hours.

Remote instrumentation service

Volocity Analysis Workstation:
- Elements Analysis Workstation:
- LI-COR Odyssey
- Spinning disk
- Nikon MicroPoint System & FRAP Room 826 HN
- Microscopy scanners, you must obtain a "Gene Center" computer account. This is required to outside parties with the prior arrangement of the staff of the Bio-Imaging facility

Rules of Operations

- You must log in to use the equipment using
- Another session, thus obtaining another/2nd appointment on the calendar, say Wed 2-5pm.
- Log on to the computers that control the equipment. Your use of the machine will then be automatically logged and you will be charged according to the fee schedule below.
- Equipment is available on a first come first serve basis.
- You can book 3 hours slots on the

The charge for this instrument is $5/hr.

The facility charges $10 per hour for use of this image

Gene Center account.

A confirmation email will be sent before the experiment date. A WebEx meeting link will

Ship the sample slide or living samples with proper package.

Objectives of Microscopes in the Bio-imaging Facility

- ELISAs and Immunoassays
- Transporter Assays
- Phosphatases/Kinases
- Microbial Growth
- Reporter Gene Assays
- Cell Viability,
- ELISA Enzyme Kinetics
- Quantitative Western
- Western blot sample

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