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 of the instruments go to http://bookit.hunter.cuny.edu
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 system. The scope can be used 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 CFP. It is ideal 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). 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. The charge for this instrument is $20/hr.
The calcium ratio imaging system consists of: a Nikon Eclipse TE 200 inverted epifluorescence microscope, Sutter Lambda 10-20 microinjection system, Nikon eclipse Ti-S fluorescence microscope, Narishige micromanipulator system, and Nikon Eclipse 90i Widefield fluorescence microscope equipped with optional Nikon DigiSight camera. The system also is equipped with a charge of $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.

JEOL JEM-100C/CX Transmission Electron Microscope

It is an advanced high-performance electron microscope with 1000X magnification and a 10M-pixel high-resolution digital camera.
The Nikon Color Imaging system consists of a Nikon Eclipse E400 upright microscope, and Nikon DXM 1200F high-resolution digital camera for image capture. 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 9.1 Imaging Station is another high-power workstation with Nikon's NIS-Elements Imaging software installed. This software provides cutting-edge tools for image manipulation and data management. The charge for these instruments is $5/hr.
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. The charge for this instrument is $10/hr.

To book time on these systems use the Bioimaging SharePoint Calendar at:

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 wavelengths, real-time kinetic analysis, kinetic multistep protocols, multistep on-demand reagent addition, 96 well bottom reading, optional bottom reading 384 well plate reader, a spectral range of 200-950 nm, a custom wavelength selection, 14-bit PMT, 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 FLA 7000
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.
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, and 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, and 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 dynamic range for measuring luminescent signals from bioluminescent and chemiluminescent assays, eliminating the need to dilute samples or manage detector-driven gain changes. The charge for this instrument is $5/scan.
The max specimen size is 55 x 70 mm and can cool samples down to -50°C.

Fluorescence Spectrometer
HT Plate Reader


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

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

(iv) PVX video conferencing for real-time consultation: during imaging experiment, PVX video conferencing system is used for real-time conversations between microscope operator and remote users to solve on-site experimental issues. Please check the following link for PVX operations:

(i) Leica SP2 confocal microscope: it is ideal for regular 2D & 3D scanning for fixed slide analysis package. There is a $5 minimum charge, and fractions of an hour count as whole hours. Please sign the log book.

10 - 24 hours $5/hour
Special rate policy described as follows: in any 24 hour period

Publications using data taken in this facility must acknowledge the RCMI program and the N. Report all accidents (injuries, spills, fires) to the Security (x4444) and Health and Safety K. Equipment is available on a first come first serve basis. You can book 3 hours slots on the H. Do not leave your samples in the facility F. If you encounter problems with the facility E-mail the facility manager, or by experienced users in the various CTBR laboratories. For the three E. When using the Cryostat, A. The facility is open for use by members of the CTBR, other CUNY departments, and D. If you have a question about the equipment, please contact your lab horizon. C. For special rate policy, please see the list below.

60x/1.49/oil
20x/0.5
10x/0.4
63x/1.4/oil
250-850nm
Near-infrared detection 680-1000nm
Western blot sample

Gene Center account.

Staining protocol for various instruments

- SYAG laser
- Melles Griot Solid State Laser
- Argon Ion Laser
- HeNe Laser
- TIRF Module
- solid state laser
- 405 nm
- 561 nm
- 561 nm
- 488 nm
- 640 nm
- 640 nm
- 405 nm
- 532 nm
- Solid State Laser

Application Summary for Different Readers in Bio-Imaging Facility

A confirmation email will be sent before the experiment date. A WebEx meeting link will be provided.
Ship the sample slide or living samples with proper package.

Contact emails:
ams@genectr.hunter.cuny.edu