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 diffraction-limited resolution images with exceptional signal-to-noise ratio 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.

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 controller. It can also be equipped with an Andor Mosaic/MicroPoint system for Optogenetics, Opto physiology, 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 fluorescent proteins.

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 located in 809HN.

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 fluorophore filter modules, and an Eclipse E6000 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

The JEOL JEM-100C/CX transmission electron microscope is an advanced high-performance electron microscope with a 10M-pixel HAMAMATSU C4742-95 digital camera integrated into the system for high-resolution image acquisition.
Nikon Eclipse E 400  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. The system also utilizes Nikon Imaging Software. The charge for this instrument is $5/hr.

Imaris 8.41 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.

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 NIS-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 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. The charge for this instrument 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 reading optics, dual emission 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 extensive range of fluorescent dyes and chemiluminescent signals, including radioisotopic labels, with a high-resolution, low-light background. It is also equipped with a 700 nm channel for infrared imaging. 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. It is equipped with a high-speed detector and a range of lasers for multi-color imaging. The charge for this instrument is $5/scan.

Odyssey Infrared Imager
The Odyssey replaces the traditional methods of analyzing western blots, chemiluminescence, and fluorescence with infrared imaging. It is equipped with two infrared channels at 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 offers 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.

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 linear range. It is suitable for making: absorbance, fluorescence, luminescence, and bioluminescent assays, eliminating the need to dilute samples or manage detector-driven gain changes. The charge for this instrument is $5/scan.
Fluorescence Spectrometer and Luminometer

- **Fluorescence Spectrometer**
  - Suitable for various applications including:
    - **Quantitative Phosphorimaging**
    - **Bioluminescent assay**
    - **Chemiluminescence**
    - **Dual Monochromator**

- **Luminometer**
  - Ideal for:
    - **On-cell Western Assay**
    - **In-Gel Western Assay**
    - **In-cell Western Assay**
    - **ELISA/FLISA**
    - **Western blot sample quantitation**

### Laser Wavelength Specifications

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<th>Lens/System</th>
<th>Wavelength</th>
<th>Detection</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x/0.13</td>
<td>405 nm</td>
<td>N/A</td>
</tr>
<tr>
<td>10x/0.3</td>
<td>488 nm</td>
<td>N/A</td>
</tr>
<tr>
<td>40x/1.0/oil</td>
<td>514 nm</td>
<td>N/A</td>
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<tr>
<td>635 nm</td>
<td>Solid State Laser</td>
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<tr>
<td>532 nm</td>
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</tr>
<tr>
<td>1550 nm</td>
<td>Solid State Laser</td>
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### Fee Schedule

- **PerkinElmer Spinning Disk Microscope**
  - $20/hour for use of the confocal.
  - $10 minimum charge, fractions count as whole hours.

- **Leica SP2**
  - $5/hour for use of the confocal.
  - $5 minimum charge, fractions count as whole hours.

### Remote Instrumentation

- **PVX video conferencing operational guide**
- **WebEx remote control guide**

### Microscope Remote Control

- **Webex**
  - Setup for remote desktop sharing.
  - Ideal for cellular dynamic studies.
  - Equipped with an environment chamber for live cell imaging.

### Microscope System Features

- **Leica SP2**
  - Confocal microscopes for imaging.

- **PerkinElmer Spinning Disk Microscope**
  - Fast scanning speed.
  - Ideal for cellular dynamic studies.
  - Equipped with an environment chamber for live cell imaging.

### Additional Notes

- **N. Report all accidents (injuries, spills, fires) to the Security (x4444) and Health and Safety**
- **M. Clean oil off the microscope objective lenses after use.**
- **L. Users may have no more than 2 reservations made on a calendar at one time for any single machine.**
- **J. Report mercury lamps in service for more than 300 hours.**
- **I. Request a Gene Center computer account to use scanners.**
- **H. Do not wear latex gloves in the facility.**
- **G. Do not wear latex gloves in the facility.**
- **F. Do not wear latex gloves in the facility.**
- **E. When using the Cryostat, you must be trained by the facility managers.**
- **D. Your use of the facility will be recorded.**
- **C. Sign the log book when you use this system.**
- **B. Your use of the facility will be recorded.**
- **A. The facility is open for use by members of the CTBR, other CUNY departments, and affiliates.**

#### Contact Information

- **ams@genectr.hunter.cuny.edu**

#### Booking System

- **To book time on this system use the Cryostat SharePoint Calendar at [link].**