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
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. This machine is in 826HN. 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 exceptional 3D images with superior 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.

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 shutter. It also supports an Andor Mosaic/MicroPoint system for Optogenetics, Opto physiology, photobleaching/activation and uncaging applications. This machine is in 826HN. 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. It is ideal for high-speed, multiple-probe, time-lapse experiments; NIS-Elements software is used for image acquisition and analysis.

This machine is in 830HN
The charge for this machine is $20/hr.

Leica Confocal microscopy (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 830HN
The charge for this instrument is $20/hr.

Leica TCS SP2 Laser Scanning Spectral Confocal Microscope

The TCS SP2 Laser Scanning Spectral Confocal Microscope can do measurements of transmitted light, fluorescence, and laser scanning fluorescence imaging.
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 fluorophore excitation monochromator, Sutter P-97 micropositioner, and camera. The system is integrated with MetaMorph imaging software with Calcium & FRET plug-in. The system also is equipped with a Narishige micromanipulator system.

This machine is in 826HN. 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 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-100CX II transmission electron microscope is an advanced high-performance electron microscope that is capable of achieving 1.0 nm resolution. A 10M-pixel HAMAMATSU C4742-95 digital camera is integrated into the system for high-resolution image acquisition.
The Nikon Color Imaging system consists of a Nikon Eclipse E400 upright microscope, and Nikon DXM 1200F high-resolution digital 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.

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 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. The charge for this instrument is $5/hr for Elements.

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 an extensive range of signals, including 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. It is equipped with two infrared channels - 700 nm and 800 nm, allowing for the probing of 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 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.

The charge for this instrument is $5/scan.
The facility charges $20 per hour for use of this microscope. There is a $20 minimum charge, and fractions of an hour count as whole hours.

### Application Summary for Different Readers in Bio-Imaging Facility

#### Purpose

- **Gemini Spectrophotometer, Typhoon 9410 Imager**
- **Leica CM 3050S Cryostat**
- **All Other Nikon Upright & Inverted Microscopes**
- **Leica Sp2 Confocal**
- **Solid State Laser**
- **488 nm**
- **405 nm**
- **561 nm**
- **640 nm**
- **TIRF Module**
- **Nikon TIRF/SIM Room 826 HN**
- **440 nm**
- **514 nm**
- **488 nm**
- **SIM module**
- **640 nm**
- **561 nm**
- **63x/1.4 oil**
- **100x/1.45 oil**
- **4x/0.13**
- **10x/0.4**
- **20x/0.5**
- **40x/0.6**
- **60x/1.45 oil**
- **100x/1.40 oil**
- **25x/0.95**
- **5x/0.15 HC PL FLUOTAR**
- **56x/1.80**
- **63x/1.40 oil HC PL APO**
- **100x/1.40 oil HC PL APO**
- **40x/1.3 oil HC PL APO**
- **5x/0.15**
- **10x/0.3**
- **25x/0.95**

### Chargable Rates

- **For scheduling the above remote instrumentation service, please check the following guidelines:**
  - **(i) Microscope remote control:** Webex is used to setup the remote desktop sharing for communication purpose.
  - **(ii) Microscopy time:** The $10 minimum charge, and fractions of an hour count as whole hours.
  - **(iii) Microscope event log:** A solution to overcome this problem is to share the microscope systems through the Internet (also called remote instrumentation): remote users can get the control of the microscope for their experiment through a simple Internet connection. Our analysis package. There is a $10 minimum charge, and fractions of an hour count as whole hours.

### Additional Instructions

- **A. 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.**
- **B. Your use of the facility will be recorded. For the optical microscopes and the Gel and Blot machines, you must be trained by the facility managers.**
- **C. To book time on this system use the Cryostat SharePoint Calendar at [this link](#).**
- **D. Do not wear latex gloves in the facility.**
- **E. When using the Cryostat, confocals, and the Nikon SIM/TIRF you must be trained by the facility managers.**
- **F. Report mercury lamps in service for more than 300 hours.**
- **G. Do not wear latex gloves in the facility.**
- **H. Do not leave your samples in the facility.**
- **I. Do not add any new reagents into the Cryostat, and all existing reagents must be removed upon completion of the experiment.**
- **J. Report mercury lamps in service for more than 300 hours.**
- **K. Do not touch the cryostat equipment.**
- **L. Do not touch the cryostat equipment.**
- **M. Do not touch the cryostat equipment.**
- **N. Report all accidents (injuries, spills, fires) to the Security (x4444) and Health and Safety.**
- **O. You must log in to use the equipment using a Gene Center account.**
- **P. Publications using data taken in this facility must acknowledge the RCMI program and the P.**

### Facility Equipment

- **Fluorescence Spectrometer**
- **Luminometer**
- **IMARIS**

### Contact Information

Dr. Lloyd Williams:

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