BioImaging Facility Reopening

The facility is currently closed but is preparing to reopen soon. Below are post COVID rules for reopening.

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.
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 images with high spatial 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 controller, and it can be used 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 more. It is designed 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.
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 fluorescence and imaging software with Calcium & FRET plug-in. The system also is equipped with a Narishige micromanipulator system.

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.

Charge for this instrument is $5/hr.

JEOL JEM-100C/CX Transmission Electron Microscope

JEOL JEM-100CX II transmission electron microscope is an advanced high-performance electron microscope.
Bio-Imaging Facility - Biology
Last Updated Monday, 27 July 2020 16:33

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. NIS-Elements 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 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 labels in a single gel imager. 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 tradition 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 uses 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 dynamic range for making luminometer based bioluminescent and chemiluminescent assays, eliminating the need to dilute samples or manage detector-driven gain changes. The charge for this instrument is $5/scan.
HT Plate Reader

For scheduling the above remote instrumentation service, please check the following link for Perkin Elmer spinning disk microscope system:

A solution to overcome this problem is to share the microscope control of the microscope for their experiment through a simple Internet connection. Our approach for this remote instrumentation task is to combine the powers of WebEx and PVX: real-time conferencing. Please check the following link for PVX video conferencing operational guide.

The facility charges $20 per hour for use of the confocal. There is a $10 minimum charge, and fractions of an hour count as whole hours.

- NVIDIA Tesla S1070
- NVIDIA Tesla K20M
- NVIDIA Tesla K40C
- NVIDIA Tesla K40M
- NVIDIA Tesla P100
- NVIDIA Tesla P40
- NVIDIA Tesla V100
- NVIDIA Tesla V100-32GB
- NVIDIA Tesla V100-16GB
- NVIDIA Tesla V100-SXM3-32GB
- NVIDIA Tesla V100-SXM3-16GB
- NVIDIA Tesla V100-SXM3-8GB
- NVIDIA Tesla P6000
- NVIDIA Tesla P5000
- NVIDIA Tesla P4000
- NVIDIA Tesla P3000
- NVIDIA Tesla P2000

Our service includes:

- In-cell Western Assay
- In-Gel Western Assay
- ELISA/FLISA
- Transporter Assays
- Phosphatases/Kinases
- Microbial Growth
- Nucleic Acid Quantitation
- RNA quantitation
- ELISA Enzyme Kinetics
- Direct DNA quantitation
- Purity testing
- Endpoint/Kinetics
- Fluorescence

Objectives of Microscopes in the Bio-imaging Facility

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Laser wavelength specifications for various instruments:

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<tr>
<td>488nm</td>
<td>Solid State Laser</td>
</tr>
<tr>
<td>405nm</td>
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</tr>
<tr>
<td>640nm</td>
<td>HeNe Laser</td>
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<tr>
<td>514nm</td>
<td>SYAG laser</td>
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<tr>
<td>457nm</td>
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Contact emails:

- Dr. Lloyd Williams: williams@genectr.hunter.cuny.edu
- O. You must log in to use the equipment using Gene Center account.
- N. Report all accidents (injuries, spills, fires) to the Security (x4444) and Health and Safety (x4444).
- M. Clean oil off the microscope objective lenses after use.
- H. Do not leave your samples in the facility longer than 24 hours.
- D. Training is required before using all machines. This can be done by individually with the facility manager, or by experienced users in the various CTBR laboratories. For the three LEICA SPOT scanners, you must obtain a “Gene Center” computer account. This is required to sign the log book when you use this system.
- L. If the microscope needs to be used the day after the initial appointment, then the second appointment must be scheduled on the same day. In other cases, another session, thus obtaining another appointment on the calendar, say Wed 2-5pm. A confirmation email will be sent before the experiment date. A WebEx meeting link will be given to you. Ship the sample slide or living samples with proper package.

Facility charges $20 per hour for use of this microscope. There is a $20 minimum charge.