

The background of the slide features a complex network of blue lines and arrows. Solid lines intersect at various angles, while dashed lines form loops and paths. Small circles, some solid and some hollow, are placed at various points along these lines, suggesting a network or a series of interconnected nodes.

# CORE FACILITIES AND RESOURCES – NORTH CAMPUS

Murthy Ganapathy  
CAS Associate Dean for Research

VPHS Research Orientation 2024

 University at Buffalo  
College of Arts and Sciences

# Science and Engineering - North Campus Shared Facilities

## Science & Engineering Shared Facilities – University at Buffalo

Schedule Lab Time

Search Equipment

Facilities & Equipment

Our Services

Getting Started

Who We Are

Contact Us

News



INFO FOR

### Engage with our labs

Specialized equipment and facilities

Full service processing and analysis

Project consultation

Hands-on training



We have some of **the region's most advanced science and engineering equipment**, ideal for electronic device development, the study and analysis of materials and 3D additive manufacturing.

[Search equipment](#)

### Need help? Contact us.

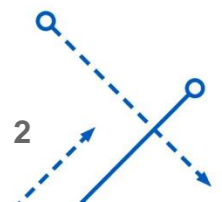
[Donald Goralski](#)

Director

Shared Instrumentation

Laboratories

(716) 645-5151



## Facilities & Equipment

BioDesign Core Facility

Cleanroom

Digital Manufacturing Lab

High Resolution Transmission Electron Microscope Facility

High-Speed 3D Velocimetry System

Materials Characterization Labs

Organic and Stable Isotope Biogeochemistry Lab

[Search Equipment](#)

Rates

Map and directions

### Related Links

[Other UB Facilities & Resources](#)



Can't find what you need?  
[Contact us.](#)

## Search Equipment

**Find the tools you need for your next project.**

We provide cost-effective access to precision laboratories, tools and equipment for electronic device development, and the study and analysis of materials. All are available for shared use by UB students and faculty, as well as researchers at other academic institutions, and those in government and industry.

 [Search Equipment](#)


This equipment database does not include the 3D/additive manufacturing equipment available in the [Bonner Hall Digital Manufacturing Lab](#). For additional information, please click on the appropriate lab or contact [Don Goralski](#) at 716-645-5151.

[Can't find what you are looking for? Contact us.](#)

Function

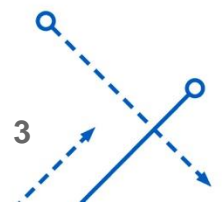
Facility Type

Location

Equipment A-Z

### Browse by Function

- [Cell and Tissue Culture](#)
- [Chromatography](#)
- [Deposition](#)
- [Dynamic Light Scattering](#)
- [Etching](#)
- [Lithography & Photolithography](#)
- [Metrology](#)
- [Microscopy](#)
- [Sample Preparation and Processing](#)
- [Spectrometry and Spectroscopy](#)
- [Surface Science](#)
- [Thermal Processing and Analysis](#)
- [Velocimetry](#)
- [Wafer Bonding](#)
- [X-ray Diffraction and Fluorescence](#)



### Cell and Tissue Culture

- ▶ [CO2 Incubators – VWR® Air Jacketed](#)
- ▶ [Biosafety Cabinet – Labconco REDISHIP Purifier Logic+ Class II A2](#)

### Chromatography

- ▶ [Gas Chromatography \(GC\) – Agilent Technologies 7890B GC with Gas Sampling Valve \(GSV\)](#)
- ▶ [Gas Chromatography Mass Spectrometry \(GC/MS\) – Agilent Technologies 7890B GC – 240 Ion Trap MS](#)
- ▶ [High Performance Liquid Chromatography \(HPLC\) – Agilent Technologies 1260 Infinity](#)
- ▶ [Liquid Chromatography Mass Spectrometer \(LCMS\) – Agilent Technologies 6470](#)

### Deposition

- ▶ [Atomic Layer Deposition Ultratech / Cambridge Nanotech Savannah S100](#)
- ▶ [E-Beam Evaporator with Glancing Angle Deposition \(GLAD\) – Kurt J. Lesker Company AXXIS](#)
- ▶ [Sputtering Deposition System – Kurt J. Lesker Company® PRO Line PVD 75](#)

### Dynamic Light Scattering

- ▶ [Zetasizer – Malvern Panalytical Advance Ultra \(Red Label\)](#)

### Etching

- ▶ [Etcher – Inductively Coupled Plasma Reactive Ion \(ICP–RIE\) – Trion Technology Oracle III](#)
- ▶ [Etcher – Inductively Coupled Plasma Reactive Ion \(ICP–RIE\) – Trion Technology Phantom III](#)

### Lithography & Photolithography

- ▶ [E-Beam Lithography System \(100kV\) – Elionix ELS–G100](#)
- ▶ [Four Point Probe System – Jandel CYL–RM3000](#)
- ▶ [Ultraviolet Ozone Cleaning System – UVOCS T10x10/OES](#)

### Metrology

- ▶ [Ellipsometer – Film Sense FS–1 Multi–Wavelength](#)
- ▶ [Field Emission Scanning Electron Microscope \(FESEM\) w/Electron Beam Lithography attachment – JEOL JSM–6500F](#)
- ▶ [Field Emission Scanning Electron Microscope \(FESEM\) with IXRF Energy–dispersive X–ray Spectrometer \(EDS\) – Hitachi S4000](#)
- ▶ [Field Emission Scanning Electron Microscope \(FESEM\) with Oxford Energy–dispersive X–ray Spectrometer \(EDS\) – Hitachi SU70](#)
- ▶ [Focused Ion Beam Scanning Electron Microscope \(FIB–SEM\) – Carl Zeiss AURIGA CrossBeam](#)
- ▶ [Four Point Probe System – Jandel CYL–RM3000](#)
- ▶ [Optical Microscopes](#)
- ▶ [Optical Microscopes: AO Epistar and Olympus BH2](#)
- ▶ [Physical Property Measurement System \(PPMS\) – Quantum Design EverCool II](#)
- ▶ [Porosity Analyzer: Micromeritics Tri–Star II Plus 3030 \(surface area\) with Micromeritics VacPrep 061 \(Sample Degas System\)](#)
- ▶ [Profilometer \(Stylus\) – Veeco Dektak®150](#)
- ▶ [Pycnometry System \(gas displacement\) – Micromeritics Accu–Pyc II 1340](#)

### Microscopy

- ▶ [Atomic Force Microscope System – Bruker Dimension Icon with ScanAsyst ©](#)
- ▶ [Field Emission Scanning Electron Microscope \(FESEM\) w/Electron Beam Lithography attachment – JEOL JSM–6500F](#)
- ▶ [Field Emission Scanning Electron Microscope \(FESEM\) with IXRF Energy–dispersive X–ray Spectrometer \(EDS\) – Hitachi S4000](#)
- ▶ [Field Emission Scanning Electron Microscope \(FESEM\) with Oxford Energy–dispersive X–ray Spectrometer \(EDS\) – Hitachi SU70](#)
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- ▶ [Optical Microscopes: AO Epistar and Olympus BH2](#)
- ▶ [Raman Microscope – Renishaw InVia](#)
- ▶ [Transmission Electron Microscope \(High Resolution\) – JEOL JEM 2100](#)



## Rates

Our rate schedule provides a number of options for your project needs, from equipment usage to full-service project consultation and support.



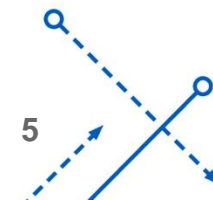
The rates provided below apply only to the cleanroom and materials characterization facilities. You can find rates for the Digital Manufacturing Laboratory [here](#) (98 KB).

Fees & Services	Internal Academic Users	External Academic Users	Industry Users
<b>Initial Orientation / Training</b> <i>(per person, one-time fee for laboratory users)</i>	\$125	\$125	\$300
<b>User Rates - per hour, for specific tools &amp; equipment</b>			
<b>Cleanrooms</b> <i>(excluding SEMs)</i>	\$25	\$25	\$100
<b>Materials Characterization</b> <i>(excluding SEMs)</i>			
Category A Equipment	\$5	\$9	\$20
Category B Equipment	\$10	\$18	\$40
Category C Equipment	\$15	\$27	\$60
Category D Equipment	\$25	\$45	\$100
<b>Scanning Electron Microscopes</b> (SEMs)	See table below		See table below
<b>Technical / Project Support</b> <i>(per hour, after 3 hours per project, as required)</i>	\$30	\$75	\$75
<b>Project Consultation &amp; Processing</b> <i>(per hour, full-service consultation &amp; processing; fees are in addition to hourly tool usage rate, as required)</i>	\$30	\$75	\$75

*Note: Rates and equipment categories are subject to periodic change. Laboratory and equipment fees help offset shared facilities' operating expenses (consumables; equipment maintenance, parts and replacement; equipment service contracts, etc.). Salaries of technical and administrative personnel are supported separately.*

If required, our staff is available to offer up to three hours of initial technical support to your project, at no cost. Open the collapsible content below for more information including user rate information and equipment lists for [cleanroom](#) and [materials characterization](#) facilities, as well as [scanning electron microscopes \(SEMs\)](#).

- + Initial Orientation / Training Fee
- + Technical / Project Support
- + Project Consultation & Processing
- + User Rates
- + Billing



## Digital Manufacturing Lab





### Precision rapid prototyping, tooling and manufacturing of 3D objects and parts.

The Digital Manufacturing Laboratory houses a variety of 3D printing/additive manufacturing technologies, software and capabilities for modeling and digital design, and manufacturing and analysis. Home to high-definition 3D digital scanners, desk-top and professional grade printers, the lab provides capabilities for precision rapid prototyping, tooling and manufacturing of highly-detailed and durable 3D objects and parts.

#### ON THIS PAGE:

- [Equipment](#)
- [Lab Services](#)
- [Availability](#)
- [Technical Capabilities](#)
- [Other Services](#)

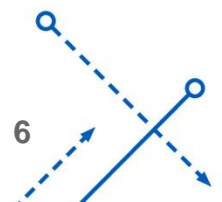
- [Available Equipment](#)  (158 KB)
- [Rates](#)  (98 KB)
- [Directions, Map and Campus Information](#)

#### PRINTER SPECIFICATIONS

-  [Download the DML printer equipment specifications \(254 KB\)](#)

#### DML location

[118 Bonner Hall](#)   
[University at Buffalo, North Campus](#)   
[Buffalo, NY 14228](#) 





# Getting Started

## New User Guides

Quick Start guides are available for the following laboratories. Please click on the appropriate laboratory link below for Quick Start information.

- [Davis Hall Electrical Engineering Cleanroom](#)
- [Furnas Hall Materials Characterization Laboratory](#)
- [BioDesign Core Facility](#)
- [High Resolution Transmission Electron Microscopy \(HRTEM\) Facility](#)

To start using the South Campus Instrument Center, please contact [Peter Bush](#).



DAVIS HALL ELECTRICAL  
ENGINEERING CLEANROOM



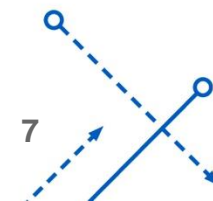
FURNAS HALL MATERIALS  
CHARACTERIZATION  
LABORATORY



BIODESIGN CORE FACILITY



HIGH RESOLUTION  
TRANSMISSION ELECTRON  
MICROSCOPY (HRTEM)  
FACILITY



# CAS Shared Facilities and Shops

## Chemistry Instrumentation Center

The Chemistry Instrumentation Center provides state-of-the-art instrumentation for chemical analysis with the goal of facilitating research and education campus-wide.

› [About the Chemistry Instrumentation Center](#)

## Magnetic Resonance Center

The Magnetic Resonance Center offers state-of-the-art magnetic resonance instrumentation and offers to pursue research projects involving applications of magnetic resonance techniques.

› [About the Magnetic Resonance Center](#)

## Shops to Support Research

Researchers in the Department of Chemistry and throughout UB and the community have access to the shops listed below, which are staffed by specialists who assist in designing, constructing, and servicing equipment and instrumentation and in stocking laboratories with materials and supplies.

› [Chemistry Electronics Shop](#)

› [Chemistry Stockroom](#)

› [College of Arts and Sciences Instrument Machine Shop](#)

## Analytical Capability

- Elemental Analysis
- X-Ray Diffraction (single crystal and powder)
- Inductively coupled plasma mass spectrometry (ICPMS)
- High Resolution/Accurate Mass Structural Analysis
- Q-Exactive LCMS Orbitrap Mass Spectrometry
- Q-Exactive GCMS Orbitrap Mass Spectrometry
- Gas chromatography mass spectrometry (GCMS)
- Liquid chromatography mass spectrometry (LCMS)
- Thermogravimetric analysis (TGA)
- Infra-red analysis (FTIR with ATR)
- Spectral analysis (UV-VIS)
- GC and HPLC with multiple detectors
- Method development for qualitative and quantitative applications
- Training

## Magnetic Resonance Center

- Bruker Neo-400 (broadband, autosampler)
- Varian Inova-400 (broadband)
- Varian Inova-500 (broadband)

- Bruker Neo-500 (broadband, autosampler)
- EMX 390 EPR Spectrometer





**QUESTIONS?**

**CONTACT THE FACILITIES DIRECTORS LISTED (OR)  
EMAIL ME: [SG82@BUFFALO.EDU](mailto:SG82@BUFFALO.EDU)**

[ Visit the websites  
for the full list of  
support services  
available ]



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