

CCMR Shared Facility Rates - Academic Use

(Updated Feb. 2019)

Some rates consist of a fixed charge plus an hourly rate.

For academic users, use exceeding \$10k in the calendar year will be charged at 60% of the normal instrument use fee.

Manager Labor Rate (may be charged in addition to instrument rates below)

\$92.00 /hr

Electron Microscopy

Arctica-S/TEM	\$25.00 /hr	*temporary rate
Cryo-S/TEM	\$57.60 /hr	\$41.80 after hours
FEI F20 TEM STEM	\$57.60 /hr	\$41.80 after hours
FEI Strata 400 STEM FIB	\$81.60 /hr	\$56.10 after hours
NION UltraSTEM 100 (4 hr minimum)	\$54.00 /hr	
FEI Tecnai T12 Spirit TEM STEM	\$63.50 /hr	
FEI Tecnai 12 BioTwin TEM	\$63.50 /hr	
Zeiss Gemini 500 SEM	\$63.50 /hr	
LEO 1550 FESEM (Keck SEM)	\$63.50 /hr	
Tescan-Mira3-FESEM	\$63.50 /hr	
TEM Sample Preparation:		
Allied Multiprep Polisher (A or B)	\$25.50 /hr	
Leica EM UC7/FC7 Cryoultramicrotome	\$42.85 /hr	
Leica Ultracut UCT Ultramicrotome - RT	\$32.50 /hr	

Microscopy, Spectroscopy, Surface Analysis

Scienta Omicron ESCA 2SR XPS System	\$50.00 /hr	
Surface-Science-Instruments-SSX-100-XPS-System	\$25.00 /hr	
Keyence VK-X260 3D Laser Scanning Confocal Microscope	\$35.75 /hr	
Asylum-MFP3D-Bio-AFM-SPM	\$36.75 /hr	
Tencor Alpha Step 500 Stylus Profilometer	\$21.00 /hr	
WITec-Alpha300R-Confocal-Raman-Microscope	\$40.00 /hr	\$32 after hours
Renishaw InVia Confocal Raman microscope	\$37.25 /hr	(\$9 minimum)
Bruker Hyperion FT-IR Spectrometer & Microscope	\$38.75 /hr	(\$9 minimum)
Bruker Vertex Vacuum FT-IR	\$38.75 /hr	(\$9 minimum)
Cary 5000 UV Vis NIR Spectrometer	\$30.60 /hr	
Shimadzu UV-3600 UV-Vis-NIR Spectrometer	\$30.60 /hr	
Aviv 400 Circular Dichroism Spectrometer	\$30.60 /hr	
Edinburgh FLS1000 Fluorescence and Lifetime Spectrometer	\$30.60 /hr	
Novocontrol Broadband Dielectric Spectrometer	\$15.25 + \$30.60 /hr	

Novocontrol Thermal Stimulated Depolarization Current (TSDC)	\$15.25 +	\$30.60 /hr
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Soft Matter/Polymer Analysis

TA Instruments DHR3 Single Head Rheometer		\$30.60 /hr
Waters MALDI Micro MX (MALDI-TOF)		\$21.00 /sample
JAI-LC9110NEXT-Recycling-Preparative-GPC		\$52.50 /sample
Waters Ambient-Temperature GPC		\$21.00 /sample
Waters Ambient-Temperature Aqueous GPC		\$21.00 /sample
Waters Breeze DMSO-GPC		\$21.00 /sample
TA Instruments Q500 Thermogravimetric Analyzer (TGA)		\$26.25 /sample
TA Instruments Q1000 Modulated Differential Scanning Calorimeter (MDSC)		\$42.00 /sample

X-Ray and Diffraction Analysis

Rigaku SmartLab X-Ray Diffractometer		\$36.75 /hr
Bruker D8 General Area Detector Diffraction System (GADDS)		\$40.75 /hr
Bruker D8 Powder Diffractometer		\$40.75 /hr
Multiwire Back-Reflection Laue Detector		\$61.25 /hr

Mechanical Properties Testing and Analysis

TA Instruments DMA Q800 Dynamic Mechanical Thermal Analysis (DMTA)	\$15.25 +	\$33.65 /hr
TA Instruments Q400EM Thermomechanical Analysis (TMA)		\$42.00 /hr
Micro Hardness Tester	\$5 +	\$5.10 /hr
Micromechanical Analyzer		\$26.25 /hr
Linkham Microscope Tensile Stage		\$15.00 /hr
ATM Sonic sifter		\$10.50 /hr

Thin Film Deposition, and Material Processing

Varian Thermal Bell Jar Evaporator Clark Hall		\$65.00 /use
Sputter Deposition		\$91.80 /use
KJL Magnetron Sputtering Tool		\$75.00 /sample
Neocera EX200 Pulsed Laser Deposition System	\$76.5 +	\$15.30 /hr
KSV-NIMA-KN4010 Dip Coater	\$5 +	\$10.50 /hr
KSV-NIMA-KN2002 Langmuir Blodgett Trough	\$10 +	\$10.50 /hr
Laurell WS-400A Spin Coater	\$10 +	\$10.50 /hr

Heat Treating

Lindberg Vacuum Tube Furnace (Clark Hall)	\$10 +	\$2.55 /hr
All controlled atmosphere tube furnaces, Bard Hall	\$10 +	\$2.55 /hr
All other furnaces and ovens (Labtemp, Lindberg, Vulcan, Hotpack, National)	\$6 +	\$1.58 /hr

Electronic & Magnetic Measurements

Quantum Design Physical Property Measurement Systems (PPMS)	\$35.75 +	\$10.70 /hr
Lakeshore Tabletop Magnetic-Cryogenic Probe System		\$12.60 /hr
Cascade CPS-06 Four Point Probe	\$6 +	\$15.70 /hr

Sample Preparation, Cutting, Polishing, etc.

Sample Prep

Enerpac Hydraulic Press		\$10.50 /hr
Buehler Simplemet II mounting press	\$10 +	\$10.50 /hr
Inert Gas Glove Box		\$21.50 /use
Ball Mill		\$5.25 /hr
Spex 8000 MIXER /MILL		\$21.00 /hr
Garlock GEM-T Jet mill		\$10.50 /hr

Cutting/Cleaning/Polishing

MicroMech Wafering Machine	\$15.25 +	\$21.00 /hr
Wale Diamond Band Saw		\$21.00 /hr
Glass Bead Abrasive Unit (sand blasting)-Clark		\$15.70 /hr
SS White Sand Blasting Unit	\$10 +	\$15.70 /hr
Buehler SiC Grinding Papers-Bard		\$26.25 /use
Struers Rotopol		\$26.25 /hr
Branson Ultrasonic Bath (large)	\$10 +	\$10.50 /hr

Welding/Bonding

Stationary Spot Welder Hughes HRW250B (Clark Hall)		\$11.25 /borrowed use
WestBond-747630E Wire Bonder	\$5 +	\$10.20 /hr
TPT HB05 Manual Wire Bonder	\$5 +	\$10.20 /hr
Kulicke - Soffa 4500 manual bonder	\$5 +	\$10.20 /hr

Vacuum Equipment

Portable RGA Pump Stations (Extorr or SRS)	\$20.5 +	\$0.52 /hr
Varian 979 Port Leak Detector	\$15.25 +	\$1.97 /hr
Portable Turbo Pump Stations (Clark Hall or Bard Hall)	\$10 +	\$0.65 /hr
Rough Pumps (Clark Hall)	\$10 +	\$0.21 /hr

Test Equipment Lending Library

(more info at <http://www.ccmr.cornell.edu/instruments/test-equipment-library/>)

Extech DC and BK Precision AC Power Supplies (9047-9051)	\$6 +	\$0.0033 /hr
Agilent E3631A Triple Output Power Supplies (9040-9046)	\$6 +	\$0.0066 /hr
GPIB-to-USB Adaptors (9180-9183)	\$6 +	\$0.011 /hr
HP 3325A Function Generators (9072-9076)	\$6 +	\$0.024 /hr
HP 3325A Function Generator with HV option (9077)	\$6 +	\$0.028 /hr
HP 8657B 2GHz Signal Generator (9085)	\$6 +	\$0.088 /hr
FW Bell Hall Probes (9140-9144)	\$6 +	\$0.028 /hr
Extech IRC40 250C Thermal Imager (9152)	\$6 +	\$0.0279 /hr
Optical Pyrometer-Portable-Bard Hall	\$6 +	\$0.0033 /hr
Signal Recovery 5113 Preamplifiers (9024-9025)	\$6 +	\$0.045 /hr
Agilent 33521A Arbitrary Waveform Generator (9078)	\$6 +	\$0.044 /hr
Stanford Research SR560 Low Noise Amplifiers (9026-9031)	\$6 +	\$0.048 /hr
HP 85662A Spectrum Analyzer (9130)	\$6 +	\$0.05 /hr
Tektronix TDS2024 Four Channel Digital Oscilloscopes (9101-9104)	\$6 +	\$0.057 /hr
DL Instruments DL1121 Preamplifiers (9020-9022)	\$6 +	\$0.066 /hr
Yokogawa 7651 DC Programmable Power Sources (9060-9065)	\$6 +	\$0.065 /hr
Signal Recovery 7265 Lock-in Amplifier (9001-9009, 9017)	\$6 +	\$0.088 /hr
Stanford Research SR844 RF Lock-in (9000)	\$6 +	\$0.17 /hr
Keithley 6430 Sub-femtoamp Source Meter (9160)	\$6 +	\$0.22 /hr
Agilent 4284A Precision LCR Meter (9171)	\$6 +	\$0.28 /hr
Tektronix TDS8000 Digital Sampling Oscilloscopes (9107-9109)	\$6 +	\$0.41 /hr
Agilent E8257 PSG Analog Signal Generators (9081-9084)	\$6 +	\$0.42 /hr
Picosecond 10070A Pulse Generators (9091-9092)	\$6 +	\$0.30 /hr
Picosecond 10300B Pulse Generators (9093)	\$6 +	\$0.42 /hr
LeCroy 8500A Wavemaster Oscilloscope (9112)	\$6 +	\$0.42 /hr
LeCroy SDA11000 Oscilloscope (9113)	\$6 +	\$0.42 /hr
Agilent 8722ES Network Analyzer (9123)	\$6 +	\$0.42 /hr
Agilent 8565E Spectrum Analyzer (9132)	\$6 +	\$0.42 /hr
Andeen Hagerling DCPAX/TP1 Capacitance/Loss Bridge (9170)	\$6 +	\$0.42 /hr
Agilent E4991A RF Impedance/Material Analyzer (9201)	\$6 +	\$0.42 /hr
Agilent B1500 Device Analyzer (9203)	\$6 +	\$0.42 /hr