

CCMR Shared Facility Rates - Academic Use

(Updated 1/17)

Manager Labor Rate (may be charged in addition to instrument rates below) \$150.00 /hr

Electron Microscopy

Cryo-S/TEM n/a /hr
FEI F20 TEM STEM \$450.00 /hr
FEI Strata 400 STEM FIB \$300.00 /hr
NION UltraSTEM 100 (4 hr minimum) \$500.00 /hr
FEI Tecnai T12 Spirit TEM STEM \$220.00 /hr
FEI Tecnai 12 BioTwin TEM \$220.00 /hr
Air-SEM \$220.00 /hr
LEO 1550 FESEM (Keck SEM) \$220.00 /hr
Tescan-Mira3-FESEM \$220.00 /hr
JEOL 8900 Microprobe \$240.00 /hr

TEM Sample Preparation:

Allied Multiprep Polisher (A or B) \$110.00 /hr
Leica EM UC7/FC7 Cryoultramicrotome \$125.00 /hr
Leica Ultracut UCT Ultramicrotome - RT \$125.00 /hr

Microscopy, Spectroscopy, Surface Analysis

X-Ray Photoelectron Spectroscopy (XPS) \$180.00 /hr
Keyence VK-X260 3D Laser Scanning Confocal Microscope \$150.00 /hr
Asylum-MFP3D-Bio-AFM-SPM \$150.00 /hr
Veeco Dimension 3100 Ambient AFM STM \$150.00 /hr
Bruker Hyperion FT-IR Spectrometer & Microscope \$155.00 /hr
Renishaw InVia Confocal Raman microscope \$165.00 /hr
Nanonics Multiview 1000 or 2000 Near-field Scanning Optical Microscopy (NSOM) \$150.00 /hr
Tencor Alpha Step 500 Stylus Profilometer \$77.50 /hr
ADE Phase Shift MicroXAM Optical Interferometric Profiler \$120.00 /hr
Shimadzu UV-3600 UV-Vis-NIR Spectrometer \$120.00 /hr
Aviv 400 Circular Dichroism Spectrometer \$130.00 /hr
Novocontrol Broadband Dielectric Spectrometer \$22.50 + \$130.00 /hr
Novocontrol Thermal Stimulated Depolarization Current (TSDC) \$22.50 + \$130.00 /hr

Soft Matter/Polymer Analysis

TA Instruments DHR3 Single Head Rheometer		\$120.00 /hr
Waters MALDI Micro MX (MALDI-TOF)		\$210.00 /sample
JAI-LC9110NEXT-Recycling-Preparative-GPC		\$210.00 /sample
Waters Ambient-Temperature GPC		\$85.00 /sample
Waters Ambient-Temperature Aqueous GPC		\$85.00 /sample
Waters Breeze DMSO-GPC		\$85.00 /sample
TA Instruments Q500 Thermogravimetric Analyzer (TGA)		\$105.00 /sample
TA Instruments Q1000 Modulated Differential Scanning Calorimeter (MDSC)		\$165.00 /sample

X-Ray and Diffraction Analysis

Rigaku SmartLab X-Ray Diffractometer		\$125.00 /hr
Bruker D8 General Area Detector Diffraction System (GADDS)		\$150.00 /hr
Bruker D8 Powder Diffractometer		\$150.00 /hr
Multiwire Back-Reflection Laue Detector		\$175.00 /hr

Mechanical Properties Testing and Analysis

TA Instruments DMA Q800 Dynamic Mechanical Thermal Analysis (DMTA)	\$30 +	\$110.00 /hr
TA Instruments Q400EM Thermomechanical Analysis (TMA)		\$82.50 /hr
Micro Hardness Tester	\$15 +	\$15.00 /hr
Micromechanical Analyzer		\$51.50 /hr
ATM Sonic sifter		\$25.75 /hr

Thin Film Deposition, and Material Processing

Varian Thermal Bell Jar Evaporator Clark Hall		\$160.00 /use
Sputter Deposition		\$220.00 /use
KJL Magnetron Sputtering Tool		\$300.00 /sample
Neocera EX200 Pulsed Laser Deposition System	\$112.50	\$22.50 /hr
KSV-NIMA-KN4010 Dip Coater	\$20 +	\$41.20 /hr
KSV-NIMA-KN2002 Langmuir Blodgett Trough	\$40 +	\$41.20 /hr
Laurell WS-400A Spin Coater	\$30 +	\$41.20 /hr

Heat Treating

Lindberg Vacuum Tube Furnace	\$22 +	\$5.50 /hr
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AcrossInternational, LabTemp, Lindbergh Tube Furnaces (Bard)	\$22 +	\$5.50 /hr
Marshall Two Zone Tube Furnace 1100C	\$22 +	\$5.50 /hr
All other Air/Box Furnaces (Labtemp, Lindberg, and Vulcan)	\$12 +	\$3.65 /hr
Hotpack or National Vacuum Ovens	\$12 +	\$3.65 /hr

Electronic & Magnetic Measurements

Quantum Design Physical Property Measurement Systems (PPMS)	\$70 +	\$31.50 /hr
Lakeshore Full Wafer Probe System		\$30.90 /hr
Lakeshore Tabletop Magnetic-Cryogenic Probe System		\$30.90 /hr
GMW-5201 Projected Field Magnet Probe System	\$18 +	\$10.00 /hr
GMW-5403 C-Frame Magnet Probe System	\$18 +	\$10.00 /hr
Cascade CPS-06 Four Point Probe	\$18 +	\$30.90 /hr

Sample Preparation, Cutting, Polishing, etc.

Sample Prep

Parr Pressure Reactor		\$25.75 /hr
Enerpac Hydraulic Press		\$25.75 /hr
Buehler Simplemet II mounting press	\$20 +	\$25.75 /hr
Inert Gas Glove Box		\$42.00 /use
Ball Mill		\$15.45 /hr
Spex 8000 MIXER /MILL		\$41.20 /hr
Garlock GEM-T Jet mill		\$25.75 /hr
Meteor Coil Winder		\$45.00 /use

Cutting/Cleaning/Polishing

MicroMech Wafering Machine	\$31 +	\$51.50 /hr
Wale Diamond Band Saw		\$41.20 /hr
Glass Bead Abrasive Unit (sand blasting)-Clark		\$41.20 /hr
SS White Sand Blasting Unit	\$31 +	\$41.20 /hr
Buehler SiC Grinding Papers-Bard		\$51.50 /use
Struers Rotopol		\$61.80 /hr
Branson Ultrasonic Bath (large)	\$22	\$20.60 /hr

Welding/Bonding

Stationary Spot Welder Hughes HRW250B (Clark Hall)		\$22.00 /use
TPT HB05 Manual Wire Bonder	\$15 +	\$30.00 /hr
Kulicke - Soffa 4500 manual bonder	\$15 +	\$30.00 /hr

Vacuum Equipment

Extorr XT200amu Portable RGA Pump Station 1-Clark	\$40 +	\$1.54 /hr
SRS RGA200amu Portable RGA Pump Station 2-Clark	\$40 +	\$1.54 /hr
Varian 979 Port Leak Detector	\$32 +	\$3.86 /hr
Portable Turbo Pump Stations (Clark Hall or Bard Hall)	\$20 +	\$1.73 /hr
Rough Pumps (Clark Hall)	\$20 +	\$0.41 /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)	\$18 +	\$0.0096 /hr
Agilent E3631A Triple Output Power Supplies (9040-9046)	\$18 +	\$0.0193 /hr
GPIB-to-USB Adaptors (9180-9183)	\$18 +	\$0.0322 /hr
HP 3325A Function Generators (9072-9077)	\$18 +	\$0.0708 /hr
HP 8657B 2GHz Signal Generator (9085)	\$18 +	\$0.2575 /hr
FW Bell Hall Probes (9140-9144)	\$18 +	\$0.0837 /hr
Extech IRC40 250C Thermal Imager (9152)	\$18 +	\$0.0837 /hr
Optical Pyrometer-Portable-Bard Hall	\$18 +	\$0.0096 /hr
Signal Recovery 5113 Preamplifiers (9024-9106)	\$18 +	0.13 /hr
Agilent 33521A Arbitrary Waveform Generator (9078)	\$18 +	0.13 /hr
Stanford Research SR560 Low Noise Amplifiers (9020-9031)	\$18 +	0.14 /hr
HP 85662A Spectrum Analyzer (9130)	\$18 +	0.15 /hr
Tektronix TDS2024 Four Channel Digital Oscilloscopes (9101-9103)	\$18 +	0.17 /hr
DL Instruments DL1121 Preamplifiers (9021-9028)	\$18 +	0.19 /hr
Yokogawa 7651 DC Programmable Power Sources (9060-9065)	\$18 +	0.19 /hr
Signal Recovery 7265 Lock-in Amplifier (9001-9009)	\$18 +	0.26 /hr
Stanford Research SR844 RF Lock-in (9000)	\$18 +	0.52 /hr
Keithley 6430 Sub-femtoamp Source Meter (9160)	\$18 +	0.64 /hr
Agilent 4284A Precision LCR Meter (9171)	\$18 +	0.84 /hr
Tektronix TDS8000 Digital Sampling Oscilloscopes (9107-9108)	\$18 +	\$1.25 /hr
Agilent E8257 PSG Analog Signal Generators (9081-9084)	\$18 +	\$1.25 /hr
Picosecond 10070A Pulse Generators (9090, 9092)	\$18 +	\$1.25 /hr
LeCroy 8500A Wavemaster Oscilloscope (9109)	\$18 +	\$1.25 /hr
LeCroy SDA11000 Oscilloscope (9109)	\$18 +	\$1.25 /hr
Agilent 8722ES Network Analyzer (9120)	\$18 +	\$1.25 /hr
Agilent 8565E Spectrum Analyzer (9130)	\$18 +	\$1.25 /hr

Andeen Hagerling DCPAX/TP1 Capacitance/Loss Bridge (9170)	\$18 +	\$1.25 /hr
Agilent E4991A RF Impedance/Material Analyzer (9201)	\$18 +	\$1.25 /hr
Agilent B1500 Device Analyzer (9203)	\$18 +	\$1.25 /hr