

Harvard Center for Nanoscale Systems
Nanofabrication Facilities
Rates (Effective 06/01/17)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
ALD-1 Savannah Atomic Layer Deposition, ALD-4 Cambridge Nanotech/Ultratech Savannah	Hour	29.00	37.70	120.00	
ALD-2 GEMStar ALD and Pulsed CVD	Hour	29.00	37.70	120.00	
ALD-3 Philipe-ALD	Hour	29.00	37.70	120.00	
CVD-2 Nexx PECVD	Hour	50.00	65.00	260.00	
CVD-3 STS PECVD	Hour	50.00	65.00	325.00	
CVD-4, 5, 9, 10 Atmospheric Furnace Tubes	Hour	30.00	39.00	195.00	
CVD-6 ,7 ,8 Low-Pressure Furnace Tubes	Hour	50.00	65.00	325.00	
CVD-11, 13 Low-Pressure Furnace Tubes	Hour	50.00	65.00	325.00	
DOE-1 Deep Oxide Etcher	Hour	50.00	65.00	325.00	
EE-4 Denton e-beam Evaporator	Hour	50.00	65.00	325.00	
EL-1 Raith-150 e-beam Lithography	Hour	55.00	71.50	290.00	14
EL-3 JEOL 7000F e-beam Lithography	Hour	50.00	65.00	255.00	
EL-4 Elionix e-beam Lithography	Hour	55.00	71.50	345.00	14
EL-5 Elionix e-beam Lithography	Hour	60.00	78.00	390.00	14
FCB-1 Flip Chip Bonder	Hour	24.00	31.20	130.00	
IBE-1 Intlvac Nanoquest II IBE	Hour	40.00	52.00	260.00	
MET-01 Toho Stress Measurement System	Hour	22.00	28.60	60.00	
MET-05 Hall / Van der Pauw	Hour	45.00	58.50	130.00	
MET-12 Quantox non-contact e-characterization	Hour	45.00	58.50	130.00	
MET-13 Integrating Sphere/LED Test Set	Hour	45.00	58.50	130.00	
MW-1 Heidelberg Mask Writer	Hour	40.00	52.00	260.00	6
MW-3 Heidelberg uPG501	Hour	15.00	19.50	100.00	6
OL-7 AS200 i-Line Stepper	Hour	53.00	68.90	293.00	
OL-9 Nanoscribe	Hour	30.00	39.00	195.00	
OL-10 Heidelberg MLA	Hour	35.00	45.50	195.00	6
PAO-1 XeF2 Etcher	Hour	25.00	32.50	80.00	
PB-2 Lakeshore 1.5K Probe Station	Hour	45.00	58.50	130.00	9
RIE-01 South Bay RIE	Hour	25.00	32.50	80.00	
RIE-06 Nexx RIE	Hour	50.00	65.00	260.00	
RIE-07 Unaxis Shuttleline ICP RIE	Hour	45.00	58.50	290.00	
RIE-08 STS ICP RIE,	Hour	50.00	65.00	325.00	
RIE-10 Rapier DRIE	Hour	55.00	71.50	325.00	

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RIE-11 Plasma-Therm Diamond RIE	Hour	35.00	45.50	230.00	
RIE-12 Matrix Plasma Asher	Hour	25.00	32.50	130.00	
RTP-1, 2 Rapid Thermal Processors	Hour	30.00	39.00	100.00	
SC-7 EVG 150 Automated Wafer Coater/Developer	Hour	20.00	26.00	130.00	
SEM-10 Hitachi SU8230 SEM	Hour	40.00	52.00	260.00	
SP-2, SP-3 6-target / 3-target Sputtering Systems	Hour	50.00	65.00	325.00	
SPM-5 Veeco AFM	Hour	26.00	33.80	125.00	
SW-2 Loomis Scriber	Hour	24.00	31.20	130.00	
SW-3 Optical Fiber Fusion Splicer	Hour	45.00	58.50	290.00	11
TE1, TE3, TE4, TE5, EE3 Evaporators	Hour	15.00	19.50	65.00	7
WB-1 Wire Bonder	Hour	24.00	31.20	130.00	
WB-2 EVG 501 Wafer Bonder	Hour	20.00	26.00	100.00	
WS-02 Layout BEAMER/LAB software	Hour	30.00	39.00	195.00	
NF-02 General Nanofab On-Site Staff Assistance	Hour	75.00	97.50	165.00	4, 13
NF-03 General Nanofab Remote Staff Assistance	Hour	120.00	156.00	220.00	4, 10, 13
NF-07 General LISE Cleanroom Access (Max 3Hrs per Day)	Day	39.00	50.70	90.00	5
Monthly Cap / user	N/A	\$2,000	\$2,600	\$12,000	

NOTES

1. Self-use is charged at the base rate.
2. The on-site or remote staff assistance rates are in addition to any equipment rate.
3. In addition to actual time used, users will be charged for all unused time reserved in the Scheduling Tool. Charges for unused reservations are not included in the monthly cap.
4. CNS staff assistance for all equipment training and certification, preparation of samples, or use of tools not listed above is charged at the General Staff Assistance rate. On-site and remote assistance are not included in cap.
5. General LISE Cleanroom Access fee is charged for all entries up to the daily maximum. The General Access fee also covers all cleanroom tools not otherwise listed on the rate sheet as having a separate charge.
6. Does not include masks or wafers. Available from staff for additional fee. Materials costs not included in monthly cap.
7. Users need to provide their own materials
8. 30% Overhead added to monthly charge base rate for all non-Harvard academic users not paying with a 33-digit code.
9. User must bring their own liquid helium (see tool web page for details).
10. General LISE Cleanroom Access Fee is not charged for Remote Staff Assistance usage.
11. Staff support is required, additional fee.
12. After cap level is reached, additional qualifying expenses are billed at 33% of base rate.
13. Not Applicable to monthly cap
14. Not applicable to monthly cap for non-academic users
15. Rates are subjected to change without notice

Harvard Center for Nanoscale Systems
Nanomaterials Facilities
Rates (Effective 06/01/17)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
3DP-1 Makerbot 3D printer, 3DP-2 Form 2 SLA 3D printer	Hour	20.00	26.00	65.00	5
BET-1 Analyzer	Hour	10.00	13.00	65.00	5
BIO-13 Synergy Plate Reader	Hour	28.00	36.40	100.00	5
LZR-2 Versalaser Cutting / Engraving System	Hour	30.00	39.00	130.00	5
LZR-004 Mira Femtosecond Laser	Hour	10.00	13.00	65.00	
LZR-006 White Light Laser	Hour	10.00	13.00	65.00	
LZR-007 Micra Femtosecond Laser	Hour	10.00	13.00	65.00	
LZR-010 Helix 75W Laser Cutter	Hour	30.00	39.00	130.00	5
MET-10, MET-15 FTIR	Hour	37.00	48.10	195.00	
MET-14 UV-VIS, MET-18 Micro UV-VIS, MET-20 Spectrofluorometer, MET-22 Cary 7000 UMS	Hour	37.00	48.10	195.00	
MET-17 Horiba Multiline Raman Spectrometer, MET-21 Hyperspectral Darkfield Raman	Hour	35.00	45.50	230.00	
NPF-1 DelsaNano Particle Size Analyzer	Hour	30.00	39.00	65.00	5
NPF-6 VirTis Lyophilizer	Hour	2.00	2.60	13.00	5
NPF-7 Multisizer 3 Coulter Counter	Hour	10.00	13.00	65.00	5
PL-4 KLA-Tencor P-16+ Contact Stylus Profiler	Hour	10.00	13.00	65.00	5
SLF-4 Transparency Photomask Writer	Hour	30.00	39.00	195.00	9
SPM-1, SPM-2 Asylum AFMs	Hour	35.00	45.50	165.00	
SPM-4 Witek NSOM	Hour	25.00	32.50	165.00	
SPM-6 Cypher-AFM	Hour	35.00	45.50	165.00	
SPM-8 PIFM Photo Induced Force Microscope	Hour	25.00	32.50	165.00	
SPM-10 Park NZ-10	Hour	35.00	45.50	165.00	
SPM-11 Neaspec Scattering Near-field Optical Microscope	Hour	35.00	45.50	230.00	
SW-1 DISCO Dicing Saw	Hour	30.00	39.00	130.00	5

Harvard Center for Nanoscale Systems
Nanomaterials Facilities
Rates (Effective 06/01/17)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
XRA-002 X-Tek HMXST 225 MicroCT	Hour	25.00	32.50	200.00	
XRA-003 XRF	Hour	30.00	39.00	130.00	
XRA-004 K-Alpha XPS/ESCA, XRA-008 K-Alpha+ XPS	Hour	35.00	45.50	195.00	
MSF-044 General Materials On-Site Staff Assistance	Hour	75.00	97.50	165.00	4, 7, 9
MSF-045 General Materials Remote Staff Assistance	Hour	165.00	214.50	220.00	4, 7, 9
MSN-G05 Bio-Materials Facility	Day	40.00	52.00	195.00	5
MSN-G06 Chemical Nanotechnology Lab	Day	35.00	45.50	165.00	5
SMC-001 Soft Materials Cleanroom	Day	25.00	32.50	162.50	9
Monthly Cap / user	N/A	\$2,000	\$2,600	\$12,000	6

NOTES

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3. In addition to actual time used, users will be charged for all unused time reserved in the Scheduling Tool. Charges for unused reservations are not included in the monthly cap.
4. CNS staff assistance for all equipment training and certification, preparation of samples, or use of tools not listed above is charged at the General Staff Assistance rate. On-site and remote assistance are not included in cap.
5. Daily room charges (G05, G06) are applied in addition to separate hourly or per use tool charges.
6. After cap level is reached, additional qualifying expenses are billed at 33% of base rate.
7. Assisted labor billed as MSF-044 and Remote assistance labor billed as MSF-045
8. 30% Overhead added to monthly charge base rate for all non-Harvard academic users not paying with a 33-digit code.
9. Not Applicable to monthly cap

Harvard Center for Nanoscale Systems
Imaging and Analysis Facilities
Rates (Effective 06/01/17)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
APT-01 3D Atom Probe	Hour	75.00	97.50	490.00	6
CD-2 Critical Point Dryer	Per 15 Min	15.00	19.50	100.00	
CD-3 Critical Point Dryer, Tousimis 931 GL	Per 15 Min	15.00	19.50	100.00	5
FIB-2 Zeiss NVision 40	Hour	75.00	97.50	490.00	
FIB-4 FEI Helios 660	Hour	90.00	117.00	490.00	
FIB-5 Hitachi NB5000	Hour	75.00	97.50	490.00	
HAR-001 JEOL 2010 FEG TEM/STEM	Hour	55.00	71.50	320.00	
HAR-008 Plasma Cleaner	Hour	40.00	52.00	130.00	
HAR-009 Gatan 691 Ion Mill	Hour	20.00	26.00	130.00	5
HAR-017 Ultramicrotome	Hour	20.00	26.00	130.00	5
HAR-027 JEOL 2100 TEM	Hour	55.00	71.50	300.00	
HAR-030 Baltec Sputter Coater	Per 15 Min	20.00	26.00	130.00	5
HAR-037 1010 Dual beam Ion-mill	Hour	20.00	26.00	130.00	5
HAR-039 1040 NanoMill	Hour	20.00	26.00	130.00	5
HAR-040 Diener/Femto Plasma Cleaner	Hour	40.00	52.00	130.00	5
HAR-043 Cryoplunge	Per 15 Min	30.00	39.00	100.00	5
HAR-049 Cross-section Polisher	Hour	30.00	39.00	130.00	5
HAR-050 EMS 300T D Sputter Coater	Per 15 Min	20.00	26.00	130.00	5
SEM-4,5,8 (Ultra55, Supra55VP, Ultra Plus)	Hour	47.00	61.10	255.00	
SEM-6 Zeiss EVO	Hour	47.00	61.10	255.00	5
TEM-5 Tecnai Cryo-Bio FEG TEM	Hour	65.00	84.50	300.00	
TEM-7 Zeiss Libra200 a-corrected FEG TEM	Hour	75.00	97.50	360.00	
TEM-9 FEI Tecnai Arctica CryoTEM	Hour	75.00	97.50	390.00	
TEM-11 JEOL ARM STEM	Hour	75.00	97.50	390.00	

Harvard Center for Nanoscale Systems
Imaging and Analysis Facilities
Rates (Effective 06/01/17)

Instrument	Rates				Notes
	Unit	Harvard	Non Harvard Academic ⁸	Non Academic	
HAR-031 General Imaging On-Site Staff Assistance	Hour	75.00	97.50	165.00	4, 7, 10
HAR-032 General Imaging Remote Staff Assistance	Hour	165.00	214.50	220.00	4, 7, 10
HAR-033 B15A (sample prep) Room Entry Charge	Day	40.00	52.00	195.00	5
MSN-G05 Bio-Materials Facility	Day	40.00	52.00	195.00	5
Monthly Cap / User	N/A	\$2,000	\$2,600	\$12,000	9

NOTES

1. Self-use is charged at the base rate.
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3. In addition to actual time used, users will be charged for all unused time reserved in the Scheduling Tool. Charges for unused reservations are not included in the monthly cap.
4. CNS staff assistance for all equipment training and certification, preparation of samples, or use of tools not listed above is charged at the General Staff Assistance rate. On-site and remote assistance are not included in cap.
5. Daily room chargeS (B15A, G05) is applied in addition to separate hourly or per use tool charges.
6. Minimum 6 hour reservation.
7. Assisted labor billed as HAR-031 and Remote assistance labor billed as HAR-032.
8. 30% Overhead added to monthly charge base rate for all non-Harvard academic users not paying with a 33-digit code.
9. After cap level is reached, additional qualifying expenses are billed at 33% of base rate.
10. Not Applicable to monthly cap.
11. Rates are subjected to change without notice.