

SNF FY24 Rates

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Equipment Use ¹				
Lab	Rate Class	Academic ³	Industry ³	Industry: SBIR ³
Cleanroom ²	Base Rate \$/hr < Soft Cap	\$50	\$145	\$120
	Monthly Soft Cap	\$3,500	\$14,500	\$12,000
	Above Soft Cap	25% of hourly rates		
	Epitaxial Deposition (Epi2/2B)	\$70	\$140	\$115
ExFab ^{4,5}	1	\$3	\$9	--
	2	\$5	\$15	--
	3	\$10	\$30	--
	4	\$20	\$60	--
	5	\$35	\$105	--
MOCVD ^{4,5}	MOCVD	\$100/\$50	\$240/\$120	--
Other Fees ¹				
Service	Description	Rate		
Staff Support	Training Recharge \$/hr	\$100.00		
	Staff Support \$/hr	\$100.00		
Stores	Inventory / Subscriptions	Refer to Stores price list sheets		

- (1) **FY24 Rates:** Badger reports direct costs, as per this rate sheet. Additional Facilities & Administration (F&A) overhead of 54.4% (<https://doresearch.stanford.edu>) is applied to invoices for non-Stanford organizations, other than U.S. academic and government institutions which are subject to 8% F&A.
- (2) **Cleanroom Soft Cap:** Cleanroom tools come under the [Soft Cap fee structure](#), with these exceptions:
 - a. **Epi2/2B** are excluded from the Soft Cap and charged on a straight hourly basis.
 - b. **Precious Metals** use is charged as describe in (6).
 - c. **No-Charge Tools in the Cleanroom include:**
 - i. Analytical: microscopes, stylus profilers (p2, alphastep), nanospec, surfscan, Filmetrics
 - ii. Ovens: 90C post-spin bake, 110C pre-bake, 150C singe, BlueM programmable and white-oven
 - iii. Solvent benches: no charge for rinsing & soaking; charge for module (heaters, sonicators).
 - iv. Miscellaneous: mask cleaner, uv cure, technics
- (3) **Rate Categories:** Academic rates apply Stanford/SLAC, other academic institutions, government, not-for-profit entities, and entities under SNF Research Participation agreement. Industrial rates apply to for-profit entities; those supported by SBIR award are eligible for Cleanroom SBIR rate.
- (4) **ExFab:** Soft cap does not apply to this lab. ExFab metals are charged as shown on the Stockroom price sheet.
- (5) **MOCVD:** Soft cap does not apply to this lab. Full rate apply to process runs; chamber conditioning/bakeout runs are charged at ½ the process run rate. MOCVD metal organic precursors, UDMHy, TBP, and TBAs, are charged at \$40/gram when an excess of 3 grams is used in a single process run.

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ExFab Equipment Rate Class by Process Area			
Deposit		Characterize	
Aixtron Graphene Furnace	5	AFM-Asylum	4
Carbon Nanotube Furnace	4	Alphastep Profilometer 1/2	No cost
Lesker Sputter 1/2 ⁶	5	Nanospec	No cost
AJA Evaporator 1/2 ⁶	5	S-neox	No cost
Hummer Evaporator	5	Filmetrics	No cost
Parylene Coater	5	Keyence 3D Microscope	5
		Cytoviva Hyperspectral Analyzer	4
		Malvern Dynamic Light Scatter	4
Pattern		Jasco-UV/Vis/NIR Spectrometer	4
Heidelberg MLA 150 1/2	5	Biologic Potentiostat	No cost
Heidelberg 3 μMLA	4	Semilab LEI Eddy Current	2
Nanoscribe 3D Printer	3	Micromanipulator Probe Station	2
Alveole Primo	4	Sinton Lifetime Tester	2
Nanoinkjet	3	Hall Measurement System	3
Optomec Aerosol Jet Printer	3		
3D Wax Printer	1		
Form2 3D SLA Printer	1	Wet Process	
Voltera	2	Headway 3 Manual Spinner	3
		SCS G3 Spincoater	3
Machine/Bond/Mold		Laurell Develop/Etch Processer	
Chemical Mechanical Polish	5	Wet Bench for Develop	3
DISCO Wafersaw	5	Wet Bench for Solvents	3
DISCO Backgrind	5	Thinky Mixer	3
Laser Cutter	4	Centrifuge	No cost
Minitech Micromill	3	Disperser	No cost
Modela CNC Micromill	No cost	Sonicator	No cost
Manual Micro Drill Press	No cost		
Flipchip Bonder	5	Heat/Cure/Surface Modify	
Idonus Chip Bonder	No cost	Red Devil Hi T Furnace	1
XPlore Microcompounder	3	Thermoscientific Oven	2
Heat Seal Press	No cost	YES HMDS Prime Oven #2	5
		Plasma Etcher	4
Controlled Environment		Dymax UV Cure	No cost
Fumehood #1-4	2	Oriel DUV	No cost
Glovebox-Left/Right	1	Hotplate-1	2
		Dry Film Laminator	No cost

(6) **Precious Metals:** Precious metal pricing is based on the average market price for the previous year. In the Cleanroom, metals are charged by the gram and will appear in equipment use fees for Cleanroom tools. In ExFab, metals are charged by the nm and logged through ExFab Stockroom inventory charges. FY24 rates are:

Metal	\$/g	\$/nm
Au	\$ 56	\$ 1.31
Ir	\$ 172	\$ 4.03
Pd	\$ 80	\$ 1.87

Metal	\$/g	\$/nm
Pt	\$ 37	\$ 0.87
Rh	\$588	\$13.76
Ru	\$ 22	\$ 0.51