

SNF FY21 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	\$135	\$110
	Monthly Soft Cap	\$3,500	\$13,500	\$11,000
	Above Soft Cap	25% of hourly rates		
	Epitaxial Deposition (Epi2/2B)	\$70	\$140	\$112
ExFab ^{4,5}	1	\$3	\$9	--
	2	\$5	\$15	--
	3	\$10	\$30	--
	4	\$20	\$60	--
	5A	\$35	\$105	--
	5B	\$35	\$70	--
MOCVD ⁴	MOCVD	\$100	\$240	--
Other Fees ¹				
Service	Description	Rate		
Staff Support	Training Recharge \$/hr	\$90.00		
	Staff Support \$/hr	\$90.00		
Stores	Inventory / Subscriptions	Refer to Stores price list sheets		

- (1) **FY21 Rates:** Badger reports direct costs, as per this rate sheet. Additional Facilities & Administration (F&A) overhead of 57.7% (<https://doresearch.stanford.edu>) is applied to invoices for non-Stanford organizations. The exception are U.S. academic and government organizations which are subject to 8% F&A (provisional for FY21).
- (2) **Cleanroom Soft Cap:** Cleanroom tools come under the Soft Cap fee structure. The exceptions are:
 - a. **Epi2/2B** are excluded from the Soft Cap and charged on a straight hourly basis.
 - b. **Precious Metals** use is charged by gram and based on the weighted market price for this year, rounded up to the nearest \$1: Gold-\$53; Platinum-\$29, Iridium-\$50; Palladium-\$66. Precious metal use is incorporated into the equipment charges for metallization tools.
 - c. **No-Charge Tools:**
 - i. Analytical tools: microscopes, stylus profilometers (p2, alphastep), nanospecs, surfscan4500, 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
- (3) **Rate Categories:** Academic rates apply Stanford/SLAC, non-Stanford 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 and MOCVD labs:** Soft cap does not apply to these labs. ExFab metals are charged as a Stores item as follows: Gold-\$1.16 /nm, Platinum-\$0.64/nm, Iridium-\$1.10/nm, Palladium- \$1.45/nm. MOCVD metal organic precursors, UDMHy, TBP, and TBAs, are charged at \$40/gram in excess of 3 grams per run. This metal organic precursor fee is incorporated into MOCVD equipment charges.

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ExFab Equipment by Area and Rate Class			
Area/Equipment	Rate Class	Area/Equipment	Rate Class
Deposition		Characterization	
Aixtron Graphene Furnace	5B	AFM-Asylum	4
Carbon Nanotube Furnace	5B	AFM #2	3
Hummer Evaporator	5B	Alphastep Profilometer	No cost
Parylene Coater	5B	Cytoviva Hyperspectral Analyzer	4
Lesker Sputter 1/2	5A	Semilab LEI Eddy Current	2
AJA Evaporator 1/2	5A	Jasco-UV/Vis/NIR Spectrometer	4
		Keyence 3D Microscope	5A
Patterning		Malvern Dynamic Light Scatter	4
3D Wax Printer	1	Micromanipulator Probe Station	2
Form2 3D SLA Printer	1	Nanospec	No cost
Alveole Primo	4	Biologic	No cost
Nanoinkjet	3	S-neox	No cost
Raith EBeam Writer	Raith	Sinton Lifetime Tester	2
Heidelberg MLA 150 1/2	5A	Hall Measurement System	3
Nanoscribe 3D Printer	5A		
Optomec Aerosol Jet Printer	3	Wet Processing	
Voltera	2	Headway 3 Manual Spinner	3
		Laurell Develop/Etch Processer	3
Machining		Micromist Electro Spray Coater	3
Chemical Mechanical Polish	5B	Wet Bench for Develop	3
DISCO Wafersaw	5A	Wet Bench for Solvents	3
DISCO Backgrind	5B		
Minitech Micromill	3	Other	
Thermolyne Muffle Furnace	1	Centrifuge	No cost
Laser Cutter	4	Disperser	No cost
Modela CNC Micromill	No cost	Flipchip Bonder	5A
Manual Micro Drill Press	No cost	Oriel DUV	No cost
		Sonicator	No cost
Controlled Environment		SCS G3 Spincoater	3
Fumehood #1-4	1	Thermoscientific Oven	2
Glovebox-Left/Right	1	Thinky Mixer	3
		Heat Seal Press	No cost
		Plasma Etcher	4
		Hotplate-1	2
		Dry Film Laminator	1
		Dymax UV Cure	1
		XPlore Microcompounder	4
		YES HMDS Prime Oven #2	5A
MOCVD Equipment			
Area/Equipment	Rate Class		
Aixtron 200 (GaAs)	MOCVD		
Aixtron CCS (GaN)	MOCVD		