



## CNI Shared Facility and ASRC NanoFab Equipment List

### Thin film Deposition and thermal processing:

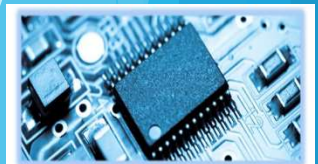
- Evaporator Thermal, Edwards BOC/Auto 306, CU
- Evaporator Thermal, AJA Instruments , ORION-3-TH, ASRC
- Evaporator Thermal/E-beam, AJA Instruments , ORION-8E, ASRC
- Evaporator (Thermal/E-beam) and Sputter, Angstrom EvoVac Multi Deposition System, CU
- ALD, Cambridge Nano Tech Inc. Savannah 200, CU
- ALD, Cambridge Nanotech, Fiji G2, ASRC
- RF/DC Magnetron Sputter, AJA Instruments , ORION-8, ASRC
- PECVD, Oxford Instruments, PlasmaPro NPG80, CU
- PECVD, Oxford Instruments, PlasmaPro NGP80, ASRC
- Cressington, 108 Manual Sputter Coater, CU
- Cressington, 108 Manual Sputter Coater, ASRC
- RTA, Solaris 100, CU
- RTA, AllWin21, AccuThermo AW 610, ASRC
- Furnace, Expertech LPCVD CTR-125, CU
- Furnace, Tystar, Mini Tytan (4 Tubes), ASRC

### Photo and e-beam Lithography:

- Mask fabrication, Heidelberg  $\mu$ PG 101 Laser Writer - 1 micron, CU
- Mask fabrication, Heidelberg  $\mu$ PG 101 Laser Writer - 3 micron, CU
- Electron Beam Lithography, Nanobeam nB4 , CU
- Electron Beam Lithography , Elionix, ELS-G-100, ASRC
- Electron Beam Lithography, Nanometer Pattern Generation System on a NovaNano SEM, CU
- 3D Nano Lithography Tool, Nanoscribe, Photonic Professional GT, ASRC
- Mask Aligner, Süss MicroTec MA6, CU
- Mask Aligner, EVG, EVG620, ASRC
- Spinners, Laurell, Lite serires, CU
- Spinners, Brewer Science, CEE 200X, ASRC

• For more information on CU equipment please contact Dr. Nava Ariel-Sternberg, [na2661@columbia.edu](mailto:na2661@columbia.edu)

• For more information on ASRC equipment please contact Dr. Jacob Trevino, [Jacob.Trevino@asrc.cuny.edu](mailto:Jacob.Trevino@asrc.cuny.edu)





### Dry Etch:

- ICP-RIE - Cl, Oxford Instruments, Plasma Pro System100 Cobra III-V, CU
- ICP - F based, Oxford Instruments, PlasmaPro System 100, ASRC
- ICP - F based, Oxford Instruments, PlasmaLab 80+, CU
- ICP/DRIE - F based, Oxford Instruments, Plasma Pro System 100/1 Cobra300, CU
- ICP/DRIE - Cl based, Oxford Instruments, PlasmaPro System 100 , ASRC
- RIE Etching, Oxford Instruments, PlasmaPro NGP80, ASRC
- Plasma Asher/Etch, Technics Series 800, CU
- Plasma Asher/Etch, PVA TePla, IoN 40, ASRC
- Plasma Asher/Etch, Diener Plasma Etch System, CU
- UV Ozone Cleaner, Samco, UV-1, ASRC
- Vapor HF, SPTS, Primaxx, ASRC
- XeF2 Etcher, SPTS, Xactix E1, ASRC

### Metrology and Characterization:

- Optical Microscope, Nikon Eclipse, CU
- Optical Microscope, Nikon, Eclipse LV150N-CH, ASRC
- Optical profiler, Wyko NT9100, CU
- Optical Profiler, Bruker, ContourGT-I, ASRC
- Surface Profilometer, Alpha-Step D-600, KLA-Tencor, CU
- Surface Profilometer, Bruker, Dektak XT, ASRC
- Ellipsometer, J. A. Woollam, Alpha-SE, CU
- Ellipsometer, J.A. Woolam, V-VASE, ASRC
- Filmetrics, Filmetrics, F20-UV, ASRC
- Atomic Force Microscope, Bruker, Dimension FastScan, CU
- Atomic Force Microscope, Bruker, Dimension FastScan, ASRC
- Atomic Force Microscope, Bruker, Multimode 8, ASRC
- Spectrophotometer, Agilent 8453 UV/Vis, CU
- SCXRD, Agilent SuperNova, CU
- Powder XRD, PANalytical XPert3, CU
- Cryogenic SQUID Magnetometer, R-700X, CU
- Zetasizer, Malvern Nano-ZS, CU
- TGA, TA Instruments Q500, CU
- X-ray Photoelectron Spectroscopy, Phi Electronics, Phi 5500, CU
- X-ray Photoelectron Spectroscopy, Phi Electronics, Versa Probe II, ASRC
- Micro-Raman spectroscopy, Renishaw inVia, CU
- Time-of-Flight SIMS, Phi Electronics, TRIFT V nanoTOF, ASRC

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### Backend and Packaging:

- Dicing Saw, Disco, DAD3220, CU
- Dicing Saw, Disco, DAD3220, ASRC
- Wire Bonder, West Bond, 7476D, Al, CU
- Wire Bonder, West Bond, 7477E, Au, CU
- Wire bonder, West Bond, Automated 454647E, ASRC
- Critical Point Dryer, Bal-Tec 030, CU

### Electron Microscopy and Sample Preparation:

- Scanning Electron Microscope, Carl Zeiss, Zigma VP, CU
- Scanning Electron Microscope, FEI, Nova Nano450, CU
- Scanning Electron Microscope, FEI, Nova Nano450, ASRC
- Scanning Electron Microscope, FEI, Helios NanoLab 660 SEM/FIB, ASRC
- Transmission/Scanning Transmission Electron Microscope (S/TEM), FEI, Talos F200X, CU
- Transmission Electron Microscope, FEI, Titan Themis 200kV (Materials Science), ASRC
- Transmission Electron Microscope, FEI, Titan Halo 80-300 kV (Cyro), ASRC
- Optical Microscope, Zeiss, Axioscope A1, CU
- Optical Microscope, Zeiss, stemi DV4, CU
- STED Microscope, Leica, TCS SP8 STED 3X, ASRC
- Diamond Saw, Buehler 11-1280-160, CU
- Dimple Grinder, Gatan 656, CU
- Polisher, South Bay Technology, 910, CU
- Precise Ion Polishing System, Gatan, PIPS II 695, CU
- Plasma Cleaner, Gatan Solarus 950, CU

### 2D Materials Processing:

- Glove box N<sub>2</sub> inert environment 2D materials processing including NanoMagnetics ezAFM, Horiba XploRA micro-Raman, and Signatone CM300 transfer station, CU

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