

UCLA's Nanoelectronics Research Facility (NRF) is open to UCLA faculty and principal investigators, as well as non-UCLA researchers, for a modest hourly charge.



Our charter is to provide first rate professionally managed use of clean room facilities to UCLA researchers and other interested parties. Safety & equipment training is provided by lab management at no additional cost to users. Optically-encoded badges are issued to the Nanolab user which permits lab and equipment access. The Nanolab is open 7 days a week from 7 AM- 11PM weekdays. Researchers must not be alone in the lab at any time.

The time in the lab is automatically monitored by computer from scan-in time to scan-out time. Equipment usage and status is tracked by log books at each equipment. The modest lab usage fee allows use of microscopes, fume hoods, Karl Suss aligners, spin coaters, rapid thermal annealer, sinter furnace and most metrology equipment. More complicated equipment such as metal evaporators and dry etchers require specialized training and an additional use fee. Invoicing is done on a monthly basis.

Equipment Capability includes:

Leica EBL 100 direct e-beam writer with alignment and resolution to 30 nm.

2 Suss MA 6 aligners with backside and bond align capability with 1 micron resolution

Miscellaneous spin coaters, bake ovens and solvent fume hoods

3 ICP etchers for anisotropic etching of metals, Si, compound semiconductors and dielectrics using Cl, or F chemistry

2 CHA Mark 40 e-beam evaporators with substrate heat, rotation and up to 6 material deposition

PECVD Unaxis 790 and STS Multiplex deposition system with stress control and P-doped SiO₂ film capability

Hitachi S4700 field emission SEM with <5 nm resolution at 2 KEV. System has **EDAX** attachment for elemental analysis.

4 stack Tystar furnace with oxidation and LPCVD for nitrides, doped polysilicon and doped LTO

2 Modular Process Rapid Thermal Annealers with pyrometer and TC control

Profilometers including **Dektak 6 and 8** for 3D mapping and vertical profiling from 100 Ang to 1 mm.

2 Nanospec 210s a **Filmtek 2000** and a **Gaertner L116B** for measuring semitransparent films and film stacks

Oxford 80 Plus RIE Etcher for oxide and nitride etching.

Contact Steve Franz for further information:
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