



# Tel Aviv University micro and nano central characterization and fabrication facility



## Missions

- To provide Tel Aviv University users with access to state of the art micro- and nanofabrication and characterization equipment.
- To consult and help users develop suitable process protocols.
- To train users to operate equipment and wet chemical stations.
- To provide services to external academic users as well as industry.

## Equipment

### Electron microscopes

- Environmental Scanning Electron Microscope (ESEM - FEI Quanta 200 FEG)
- Field Emission High Resolution Scanning Electron Microscope (HRSEM - Jeol JSM-6700)

### Particle Beam Lithography

- E-beam lithography (Raith 150)
- SEM with e-beam writing attachment (Jeol 6400 + Elphy)
- Focused Ion Beam Milling (Raith ionLine)

### AFM/STM

- AFM (Molecular Imaging PicoSPM II)
- AFM (Veeco NanoScope IV MultiMode)
- Variable Temperature Ultra-High Vacuum STM/AFM System (Omicron)
- AFM in a glove box (NT-MDT SMENA-A)

### Measurements

- Profile/Step height (Tencor, Veeco)
- Spectroscopic Ellipsometer (Woollam M2000DUV)
- Spectroscopic Reflectometer (Sentech FTP)
- Film Stress (2d and 3d) 3d surface profiling (KLA P-16+)

### Backend

- Dicing (Disco DAD 3350)
- Wire Bonding (K&S)
- Precision Diamond Scriber (ATV)

### Optical microscopy

- Metallurgical confocal microscope (Olympus LEXT)
- Measurement microscope (Hisomet II)
- Inspection Microscopes (Olympus MX-40, MX-50)
- Scanning Raman microscope (maybe coupled to AFM)

### Photolithography and nanoimprint lithography

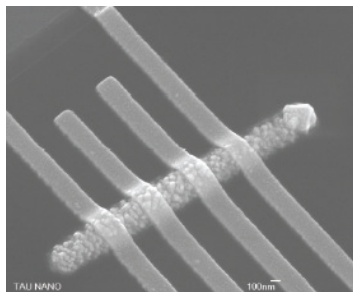
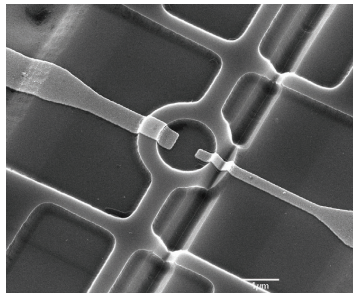
- Contact lithography (Suss MA6, MJB3)
- Direct laser writing & photomask preparation (Heidelberg Instruments Fast Scan DWL-66fs)
- Nanoimprint Lithography (S.E.T. FC-150)

### Thin film deposition and etching

- E-beam deposition (VST, Edwards 306)
- Thermal evaporation (VST)
- RF sputtering (MRC)
- DC sputtering (Penta Vacuum)
- RIE etching (Nextral 860 HDP RIE, Oerlikon 790 RIE)
- DRIE etching (Plasma Therm 770 ICP DRIE)
- Wet etching
- Wet and dry substrate cleaning
- Ion Beam Sputtering
- PECVD (Oerlikon 790)

### Thermal Treatment

- RTP (Jipelec Jetfirst 100)



## Contact

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## Customers

**Companies:** Active Implants ■ Ayalan ■ Bright View ■ Cima Nanotech ■ Civan ■ El-Mul ■ Flamingo Electronics ■ HP-Indigo ■ IAI ■ IMH ■ Impel ■ ITH ■ Kador Microelectronics ■ Maradin ■ MEMS & Optomechanics Design ■ Mizur Technologies ■ Nanometrics ■ Nanoready ■ Nano-Retina ■ Orbotech ■ Orbotech Medical Solutions ■ Piercell ■ PlanXwell ■ PV NanoCell ■ RAFAEL ■ SOREQ NRC

**Academia:** Bar Ilan University ■ HUJI ■ Technion ■ Weizmann Institute