microfabrication techniques have roots in the sta ndard fabrication methods developed for the semic o nductor industry . some of these techniqu es are common between the micro/nano and very larg e-sca le integration ( VLSI ) microchip fabrication disciplines . lithography is the technique used t o tr ansfer a computer-generated pattern onto a sub strate (silicon, glass, GaAs, etc.) this pattern i s then used to etch

Pulsed laser and atomic layer deposition have attr acted a considerable amount of attention re- cent l y . these two techniques offer several unique adva ntages compared with other thin-film deposition . the main advantages of the PLD ar e its simplicity and ability to deposit complex ma terials with preserved stoichiometry . other depos ited materials include transition metals (Cu, Co, Fe, and Ni) , metal oxide wet

frit can also be used as an interlayer in sub- strate bonding . a thin layer of glass is deposited a nd preglazed a nd the sandwich is heated to above the glass melti ng temperature . the dimensional s pectrum of the m icrostructures that can be fabricated using these tech-niques spans from 1 mm to 1 m and a robot based station can take over precise proces sing and assembly tasks .