

Materials List for:

# Precision Milling of Carbon Nanotube Forests Using Low Pressure Scanning Electron Microscopy

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## Materials

Name	Company	Catalog Number	Comments
100 mm diameter silicon wafer with 1 micron thermal oxide	University Wafer		Beginning substrate
Iron sputter target	Kurt J. Lesker	EJTFEXX351A2	Sputter target
Savannah 200	Cambridge		For atomic layer deposition of alumina
Quanta 600F Environmental SEM	FEI		Environmental scanning electron microscope used to support a low-pressure water vapor ambient environment for CNT forest milling
xT Microscope Control software	FEI	4.1.7	Control software used on Quanta 600F ESEM
Nanometer Pattern Generation System - Software	JC Nability Lithography Systems	Version 9	Software used for electron-beam lithography
Dedicated computer with PCI516 Lithography board			Equipment used for electron-beam lithography
DesignCAD software		V 21.2	Optional equipment used to generate patterns for electron-beam lithography
E-beam lithography mount	Ted Pella	16405	Electron beam lithography mount with a Faraday cup and gold nanoparticles on carbon tape
Picoammeter	Keithley	6485	Used with the Faraday cup to quantify beam current
12.7 mm diameter SEM stub	Ted Pella	16111	SEM stub
45 degree pin stub holder	Ted Pella	15329	Optional equipment used to mill the cross section of a CNT forest