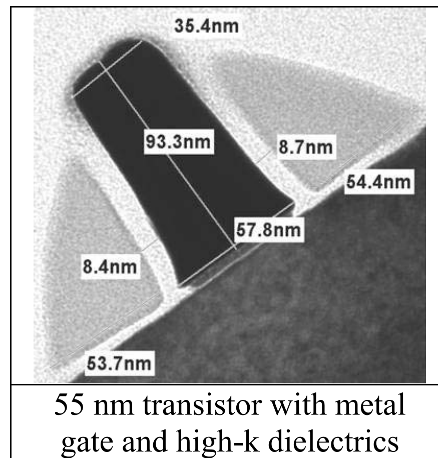
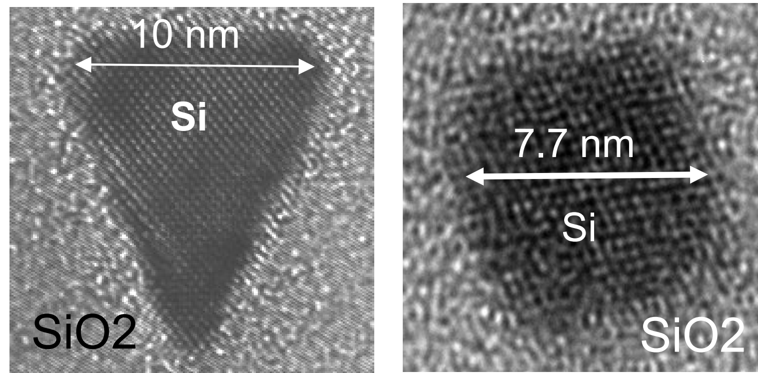
Transmission Electron Microscopy for nanotechnology

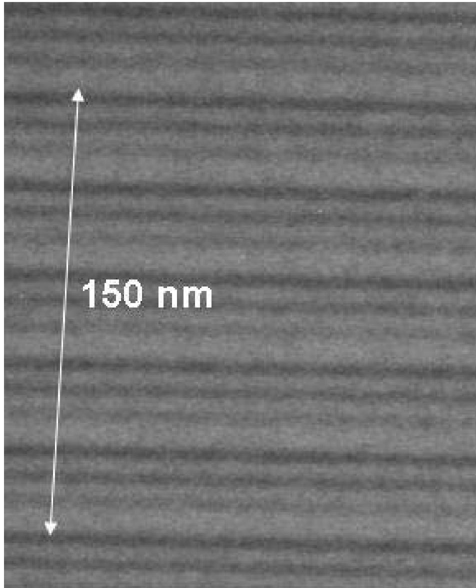
Transmission electron microscopy (TEM) is a powerful tool for analysis of structure and devices with nano-meter scale dimensions. IME has a fully equipped TEM lab starting from ultra precision sample preparation for any micro- and nano-electronics structures and devices, TEM analytical capability with energy dispersive X-ray spectrometry (EDS) and electron energy loss spectrometry (EELS), to related simulation and image processing tool for data interpretation. The analytical capabilities are well tuned towards physical and chemical analysis of nanostraructures for the microelectronics industry. IME TEM lab accepts advanced analytical requests and fully supports the semiconductor manufacturing as well as research activities with commitment towards quality and speed.

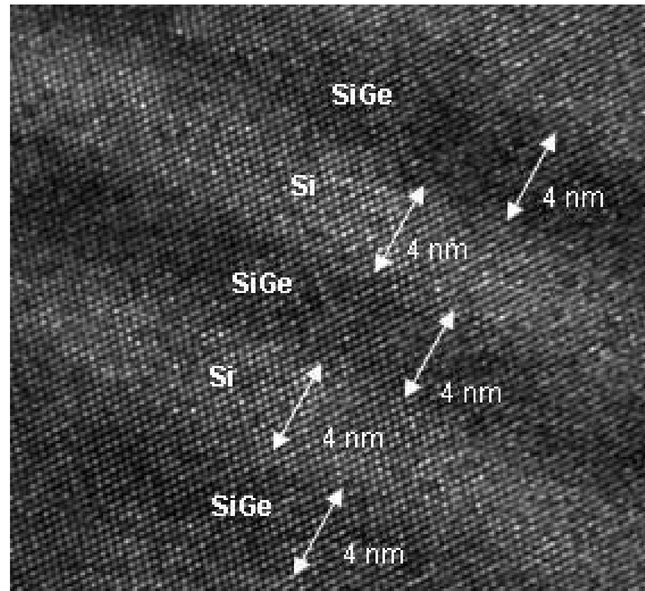


55 nm transistor with metal gate and high-k dielectrics



Cross-section of Si nanowires as observed by TEM





Cross section TEM shows multilayered SiGe/Si heterostructure superlattice

HRTEM on one superlattice showing SiGe/Si structure with distinctive contrast