

Projects Summary and Photolithography

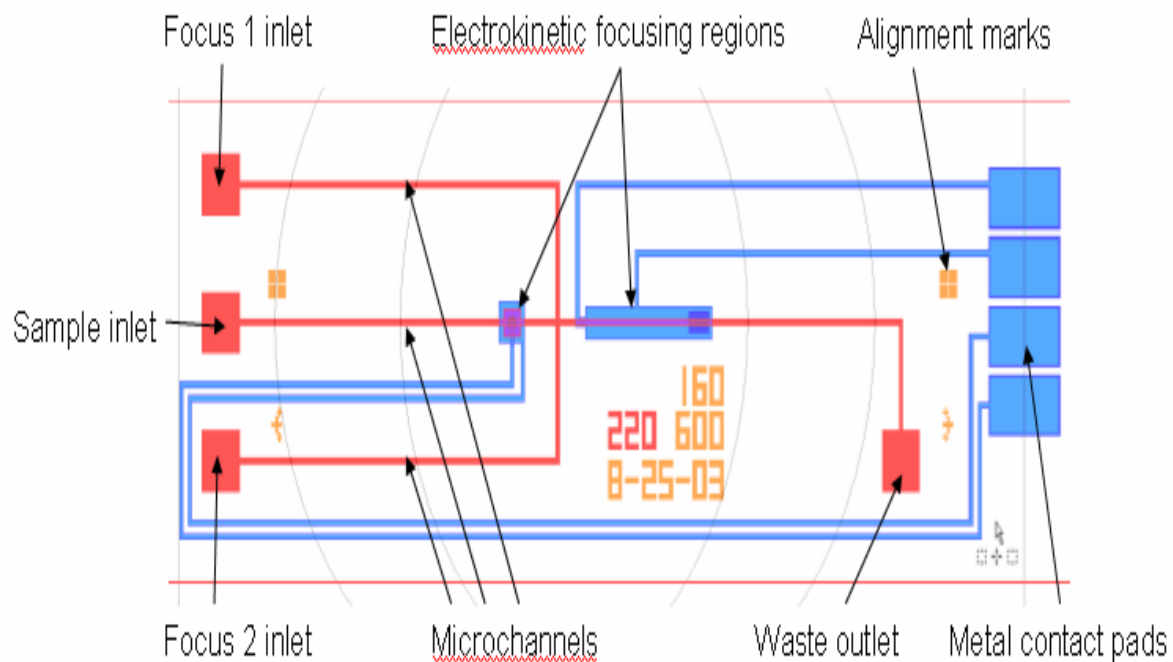
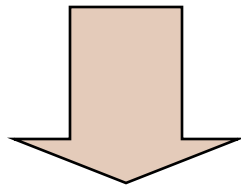
Andreas G. Andreou

Flow Cytometer on a CHIP

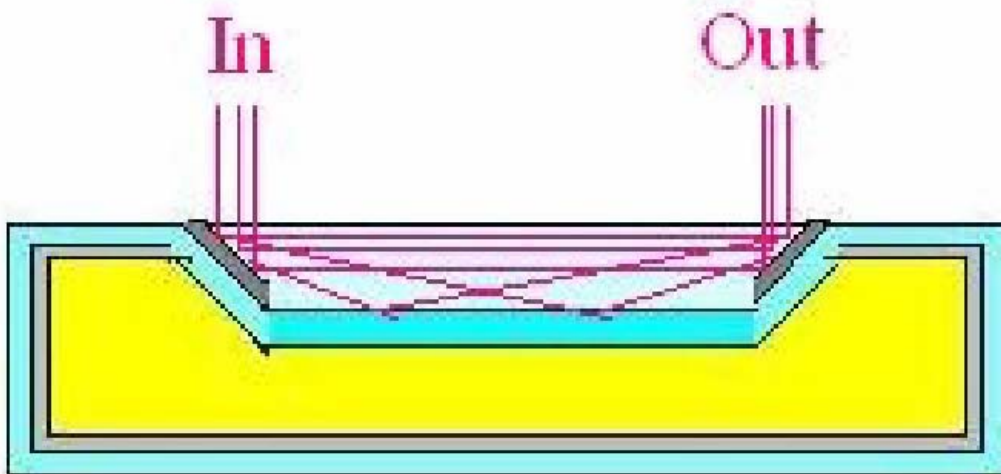
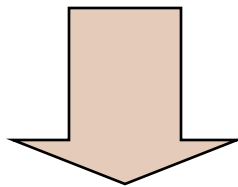
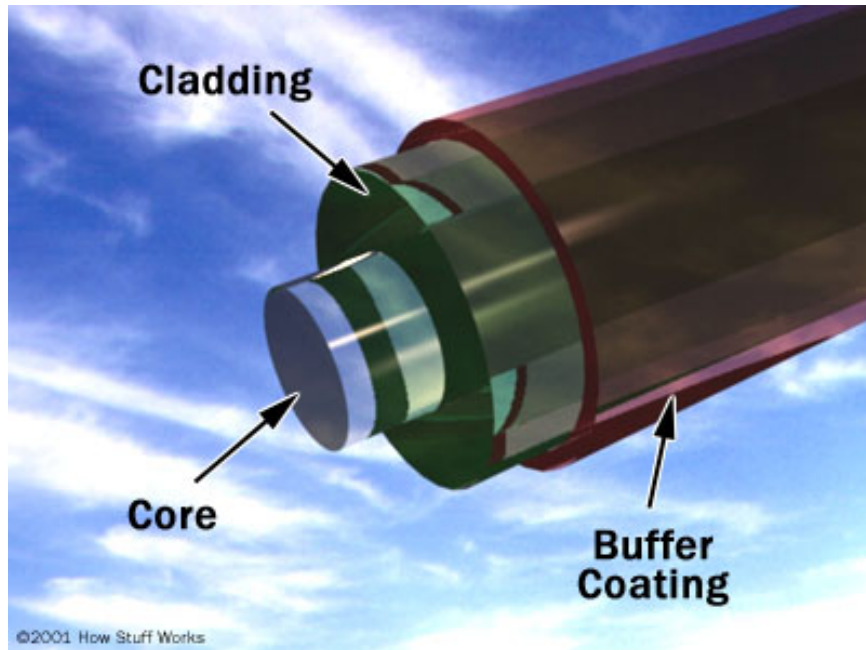
<http://www.bdbiosciences.com/index.shtml>



An analytical instrument to measure the number and other key parameters of large number of cells.



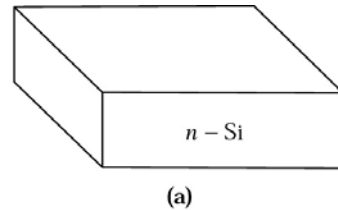
Optical Waveguides on a CHIP



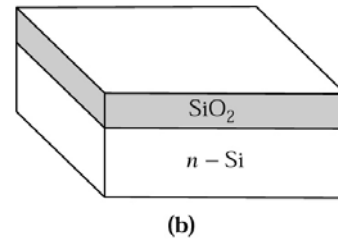
Robert Winsor M.S.E. Thesis title: *Hybrid, silicon-dioxide/SU-8 optical waveguides using silicon micromachining*, May 2004.

Photolithography Introduction (I)

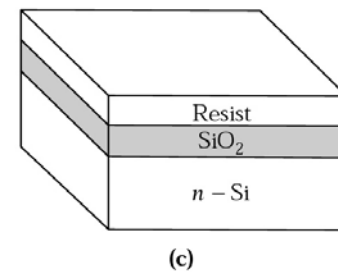
Silicon



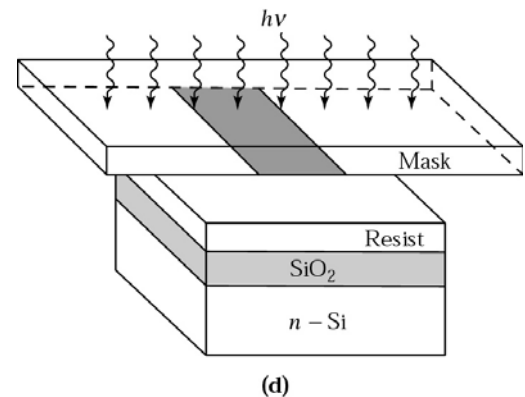
Oxidation



Photoresist Deposition



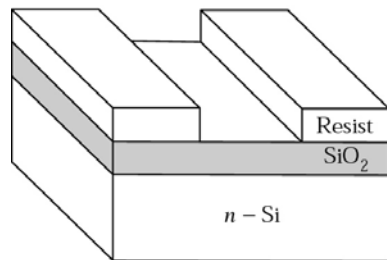
Masking and Exposure



Figures from May and Sze

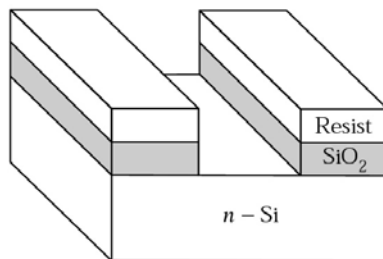
Photolithography Introduction (II)

Photoresist Development



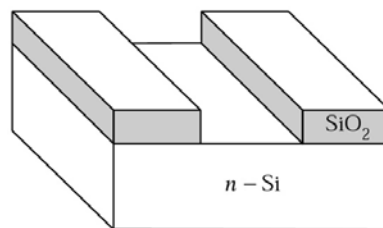
(a)

SiO_2 etching



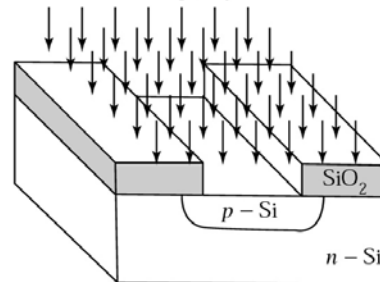
(b)

Photoresist Cleaning



(c)

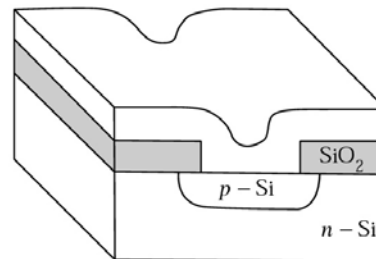
Dopant gas
or
accelerated impurity ions



(d)

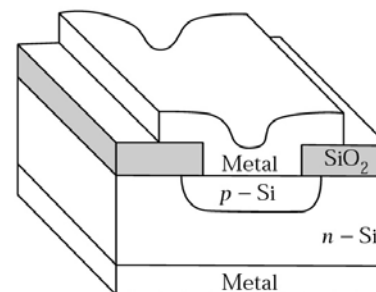
Doping

Metallization



(e)

Metallization Patterning



(f)

Figures from May and Sze