Nanophotonic Circuit Elements ARIC SANDERS, NIST/Yale, NOR- 
MAN SANFORD, JOHN SCHLAGER, NIST, ERIC DUFRESNE, MARK REED, 
Yale — In order to realize nanoscale photonic circuits, sub-diffractive light guides, 
switches, and other active elements must be first realized. We have demonstrated 
that silver nanowires can act as plasmonic fibers, redirecting and distributing light 
at the nanoscale. In addition, silver nanowires can act as sensitive switches based on 
the strong polarization dependence of the plasmon polariton modes carried on their 
surface. Finally, the role of gallium nitride nanowires as active optical elements is 
presented.