

platform, the next challenge will naturally be the integration of photonic devices with electronic circuits in a single silicon chip.

As previously demonstrated on the III-V semiconductor-based photonic integrated circuits (PICs), electronic-photonic integration is challenging both in physical device fabrication as well as in system and circuitry design. The device fabrication challenges lie in the development of a low-cost CMOS-compatible process that

significantly lower speed of CMOS electronics.

To overcome this challenge, many previous works use wavelength-division multiplexing (WDM) in order to split the optical ba