Manipulating Light on Chip

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Silicon is evolving as a versatile photonic platform with multiple functionalities that can be seamlessly integrated with low power. The tool box is rich starting from the ability to guide and switch multiple wavelength sources at GHz bandwidths, to optomechanical MEMS and opto-fluidics devices. Some of the challenges in the field of silicon photonics are discussed, among them are the decrease of losses in silicon waveguides and the integration of silicon photonics with current CMOS microelectronics.