

## Next generation silicon photonics

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In the past decade, silicon photonics has been shown as a platform for high-performance massively integrated optical devices that can be integrated with state-of-the-art microelectronics. The toolbox of integrated nanophotonics today is rich: from the ability to modulate, guide and amplify at GHz bandwidths, to optomechanical and nonlinear devices. The explosion of silicon photonics enabled components with unprecedented performance, and opened the door to a vast variety of applications ranging from micro-lidars for self-driving cars to implantable devices for neural activation. In this talk I will review the current challenges and recent achievements in the field of silicon nanophotonics and present recent results.

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