

Multi-micron silicon photonics platform for 400Gb/s optical engines and in-package optics

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Abstract

We will present Rockley Photonics' multi-micron silicon photonics platform and its advantages for manufacturable high-speed 400 Gb/s optical engines and in-package optics, including high density photonic integration, polarization independence, low-loss fiber attach, low-loss integration of III-V materials, and high performance. We will present latest results on 400 Gb/s Si photonic optical engine performance, and LightDriver™ approach for industry adoption of in-package optics, which provides a >2x reduction in cost and power consumption for photonics I/O solutions for high-throughput ASICs compared to standard optical transceivers.

We will also describe our studies on how datacenter network architectures can be optimized given the trends towards ever-larger capacity switches and the use of in-packaged optics.

Bio

Aaron Zilkie is Co-founder and VP of R&D at Rockley Photonics. At Rockley Photonics he currently leads silicon photonics R&D developing next-generation technologies and product solutions for the company. Aaron has 15 years of experience in research and development, IP development, and product development in optical datacom, optical communications, and photonics. Prior to Rockley Photonics he has held roles at Kotura Inc. developing silicon photonic QSFP optical transceivers and at Oclaro Technology Inc. and Nortel Networks developing optical communications system component and subsystem products. He has over 40 granted patents and patent applications, has authored or co-authored multiple journal articles in the field of photonics, and has presented at numerous international photonics and optical communications conferences. Aaron holds a Ph.D. in Electrical Engineering (Photonics) from the University of Toronto.