

## **In-package optics for the future of datacenter networking**

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### **Abstract**

We will present Rockley Photonics' OptoASIC product which uses in-package silicon photonics to integrate high-speed optical interconnects with high-scale CMOS digital and mixed-signal circuits and discuss how it changes the landscape of networking in datacenters, providing optical I/O with lower energy per bit and lower cost per port than existing solutions. We will also present how breakthroughs in co-packaging of silicon photonics with packet switch ASICs can change the economics of network hardware and enable new directions in datacenter networking.

### **Bio**

Aaron Zilkie is Co-founder and VP of R&D Photonics at Rockley Photonics. At Rockley Photonics he currently leads silicon photonics R&D developing next next-generation products and 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 20 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.