

# Silicon Photonic Transceivers for High-Speed Coherent Optical Communications

## Kishore Padmaraju

Senior Member of Technical Staff, Nokia

Founding Member of Columbia University  
Optica Student Chapter

### Speaker Bio:

Kishore Padmaraju is a Senior Member of Technical Staff in Nokia's Advanced Optics group. He received a B.S. in Electrical & Computer Engineering from the University of Rochester in 2009, and a Ph.D. in Electrical Engineering from Columbia University in 2014. During his time at Columbia University he also co-founded the University's Optica student chapter, and served as co-organizer of the IONS/FOCUS student conference held jointly between CCNY & Columbia University in 2012. From 2014 to 2020 he was a Senior Engineer at Elenion Technologies architecting control algorithms & hardware/firmware implementation for Elenion's multiple generations of coherent silicon photonic transceivers. He continued on in this role following Nokia's successful acquisition of Elenion Technologies. He is the co-author of over 50 conference, journal, and patent publications in the field of silicon photonics.



### Abstract:

Silicon photonics technology has found wide application in the area of optical communications. In particular, the field of coherent optical communications has greatly benefited from the highly integrated silicon photonics platform. The ever growing bandwidth requirements of the modern internet have necessitated the use of coherent optical communications in the majority of long-haul and metro optical networks, and current trends predict their greater use in the shorter (but more numerous) links that populate inter- and intra- data center optical networks.

This talk will review the principles of coherent optical communications, and highlight recent commercial advancements in the use of silicon photonics for powering Nokia's optical networks. In addition, this talk will highlight the early years of Columbia's Optica student chapter, as well as reflections on the path from Academic to Startup life as a graduate student.

**Location: EE Conference Room, Mudd 13<sup>th</sup> Floor**

**Date: April 13<sup>th</sup>, 2023**

**Time: 3:30 pm - 5:00 pm EST**

**Food Will Be Served!**

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