

High-Speed Driver and Receiver Electronics for Next-Generation Optical Networks

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Interface rates need to scale up to follow the increasing demand of data intensive applications such as cloud services, high-performance computing, video traffic, storage, 5G, etc. Datacenters have become the hot spots of the internet where various interconnect challenges reside: chip-to-chip, chip-to-module, board-to-board, rack-to-rack, etc. There is no single best solution among electrical and optical technologies due to the different technological constraints in terms of distance, footprint, power consumption, cost, etc. Research is approaching this challenge from different angles, with technological improvements on photonic and electronic devices and/or by applying more complex modulation and signal processing. In this talk, we highlight a number of our recent developments on the most critical building blocks of very high-speed transceivers targeting various applications at 56Gb/s and beyond.