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Frontiers in Optical Interconnects

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

The Internet grows by 30% per year and consumes 9% of all electricity worldwide while transmitting hundreds of terabits per second. Global use of information grows continuously due to the demands of our society. We cannot continue the exponential growth of our use of information without significant reduction in energy consumption. This is a serious challenge for optical interconnects—how to reduce energy consumption and cost while increasing data rates.

Datacenters will continue to deploy optical interconnects to meet the required bandwidth density. The solution to energy-efficient and enormous bandwidth density optical interconnects is tight integration between electronics and photonics. Innovation within photonics and electronics has enabled technologies to reduce energy consumption while supporting exponential use of information. A key enabler is the ring resonators for high throughput optical interconnects. Integration of optical technologies into datacenters will enable advances in machine learning and artificial intelligence. This will provide fast and reliable services to users worldwide.

Prof. Dr. Ozolins Oskars
Guest Editor

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Message from the Editor-in-Chief

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