Special Issue

Frontiers in Optical Interconnects

Message from the Guest Editor

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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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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