# Special Issue

# Advanced Optical Communications

### Message from the Guest Editors

As technology progresses, demand for information has become more immediate, driven by the Internet. The exponential increase of data traffic over the past few decades has facilitated the development of technologies capable of delivering higher capacities. The capacity of fiber optic communication systems has experienced a steady and rapid growth over the years, adapting to the ever-growing requirements of society. In recent years, however, worries have arisen regarding the theoretical capacity limits of fiber-optic technology, and several methods have been proposed to overcome the barrier posed by the nonlinear Shannon limit.

This Special Issue aims for solutions that allow higher capacity transmission using novel optical amplifiers, advanced algorithms for digital coherent detection and encoding, as well as advanced computational and experimental methods for the compensation of nonlinear effects that will allow for accommodating less noise-resistant high-level modulation formats to handle capacity requirements in a single and multimode optical fibers.

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### Deadline for manuscript submissions

closed (31 December 2021)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/46193

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## Message from the Editor-in-Chief

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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