

Special Issue

Optical Access and Transport Networks

Message from the Guest Editors

Modern optical networks constitute the backbone of global communications. Currently, xPON optical access networks are the most recognizable, as they reach offices and homes. Other telecommunications networks include distribution and transport networks. The deeper we delve into these networks, the more broadband they become, requiring increasingly advanced technologies to handle petabit throughputs. At the same time, modern wireless communication systems are increasingly unable to function without fiber-optic networks. Optical solutions, in addition to fiber-optic networks, are beginning to be incorporated into wireless networks such as Li-Fi. All-optical networks at the user plane, due to their high transparency, ensure high QoS, while their SDN programmability at the control plane ensures high scalability and dynamic adaptation to current traffic. The era of intelligent and energy-efficient optical networks has just begun, as the introduction of solutions based on machine learning and AI algorithms will ensure faster evolution and adaptation to the needs of Industry 5.0 and future services accompanying smart cities and regional advanced infrastructures.

Guest Editors

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