

—Special Section on Photonic Network Technology for Beyond 5G/6G Era—

The IEICE Transactions on Communications announces that it will publish a special section entitled “Special Section on Photonic Network Technologies for Beyond 5G/6G Era” in January 2024.

In the Beyond 5G/6G era, photonic network technology is expected to play a major role as the technological foundation of the advanced information and communication society; it requires ultra-high speed, large capacity, low power consumption, ultra-low latency, high elasticity, and autonomy. In addition, photonic networks are becoming more important in various areas such as core-metro networks, mobile and access networks, submarine cable communications, edge computing, intra-/inter-datacenter networks, and high performance computing.

Innovation in the Beyond 5G/6G era requires accelerating the evolution of technology across photonic networks, including devices, systems, architectures, control/management, and applications. In recent years, research and development of fundamental network technologies have been extensively carried out, *e.g.*, space division multiplexing, open/disaggregated photonic networks, network control and management using machine learning, sensing/power transmission utilizing photonic networks, and high-density optical interconnection. In light of these circumstances, this special issue will solicit papers on the latest research results in the fields related to photonic networks. We welcome a wide range of papers on cutting-edge photonic network technologies that will lead to solving problems and creating new research areas.

1. Scope

This special section aims at timely dissemination of research in these areas. Possible topics include, but are not limited to:

- Design, control, and management of photonic networks
- High-capacity photonic networks based on SDM/WDM
- Photonic networks for datacenter and computing
- Artificial intelligence and machine learning for photonic networks
- Management and monitoring technologies for open and automated networks
- Innovative photonic network devices and optical signal processing
- Applications of photonic networks, *e.g.*, sensing and power transmission

2. Submission Instructions

The standard number of pages is 8. The page charges are considerably higher for extra pages. Manuscripts should be prepared according to the guideline in the “Information for Authors”. The latest version is available at the web site, http://www.ieice.org/eng/shiori/mokuji_cs.html. The period for revising the manuscript after acknowledgement of conditional acceptance for this special section could be shorter than that for regular issues (60 days) because of the tight review schedule.

This special section will accept only papers by electronic submission. Submit a manuscript and electronic source files (LaTeX/Word files, figures, authors' photos and biography) via the IEICE Web site https://review.ieice.org/regist/regist_baseinfo_e.aspx by March 31, 2023 (JST). Authors should choose the Photonic Network Technology for Beyond 5G/6G Era as a “Journal/Section” on the online screen. Do not choose [Regular-EB].

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3. Special Section Editorial Committee

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- * The accepted papers will be soon published online on the web site of Transactions Online after the acceptance is notified and the payment is completed. For detailed information, please visit http://www.ieice.org/eng/shiori/page2_cs.html#8
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