

# Special Issue

## Emerging Topics in Optical Communications

### Message from the Guest Editors

Optical communications have been continuously developing over the past four decades, allowing for new capabilities in delay-sensitive network applications and high throughput network applications. Driven by dramatically increasing throughput demand and quality of service requirements, optical communication systems are needed not only in transport backbone networks but also in metropolitan areas and access networks. To further boost the impact of this exciting and rapidly evolving field, this Special Issue intends to bring together contributions from leading experts in the field, fostering effective solutions for the future challenges in optical communications. Topics of this Special Issue include, but are not limited to, the following:

- AI for optical communication;
- AI-driven optical systems;
- Microwave photonic devices and applications in optical communication;
- Orbital angular momentum of light for communication;
- Rydberg-atom-based communication;
- Digital twin optical networks;
- Optical fiber networks;
- Autonomous optical networks;
- DSP-based monitoring;
- Wideband optical transmission.

Articles, perspectives, and reviews are all welcome.

### Guest Editors

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### Deadline for manuscript submissions

closed (15 July 2025)



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## About the Journal

### Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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