Special Issue

Challenges and Opportunities in Optical Wireless Communications for beyond Fifth and Sixth Generations Networks

Message from the Guest Editor

This Special Issue seeks to bring together original research contributions from both academia and industry to present the latest developments, challenges and open issues in the utilization of OWC technology for next-generation networks. Contributions in the form of theoretical, numerical and experimental papers are welcomed. Submissions may encompass a broad range of topics, including (but not limited to):

- Channel modeling and analysis;
- OWC for IoT;
- Visible light communication (VLC);
- Optical Quantum communication;
- Quantum Key Distribution in FSO;
- Machine learning applications in OWC;
- Security and privacy in OWC;
- Aerial FSO communication using UAVs, HAPS, etc.;
- Underwater optical wireless communication;
- Integrated RF-FSO communication;
- Spectral efficiency and modulation in OWC;
- Antenna design for OWC, with indoor and outdoor applications;
- Deep learning and artificial intelligence-based OWC system optimization;
- System design optimization for air-borne, air–water interface systems using hybrid RF-FSO or FSO systems.

Guest Editor

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Deadline for manuscript submissions

closed (10 May 2025)

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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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