

Call for Papers

IEEE Photonics Technology Letters

Special issue on Intelligent Computing and Wireless Optical Communications

Guest Editors

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Scope and Topics

IEEE Photonics Technology Letters (PTL) will publish a Special Issue dedicated to report expanded versions of high-quality contributed and invited talks presented at the International Conference on **Intelligent Computing and Wireless Optical Communications (ICWOC)**, held during June 27-29, 2025, in Chengdu, China. The conference theme, "**Intelligent Connectivity in Optical Communications**," underscores the convergence of intelligent computing technologies and optical communication systems, aiming to drive groundbreaking innovations and shape the future of next-generation intelligent networking solutions. As optical communication systems evolve to meet the increasing demands for ultra-high-speed, low-latency, and energy-efficient data transmission, integrating intelligent computing technologies such as photonic neuromorphic computing, artificial intelligence (AI), machine learning (ML), and advanced signal processing has become imperative. Intelligent computing empowers real-time network optimization, intelligent resource allocation, adaptive modulation schemes, and proactive fault detection, significantly enhancing the performance and reliability of optical networks. However, despite these advancements, numerous challenges remain. The integration of intelligent computing with optical fiber networks, optical wireless communications, and free-space optics necessitates further exploration to overcome spectrum constraints, link instability, and dynamic channel impairments. This Special Issue aims to showcase cutting-edge research that advances intelligent computing and optical communication technologies, fostering innovations that will shape future intelligent, resilient, and adaptive communication infrastructures.

The topics of this Special Issue include but not limited to the following:

Wireless Communications and Networks, Optical Fiber Communications and Networks, Optical Wireless Communications and Networks, Integrated Sensing and Communication and Signal Processing, Space Communications, Navigation and Tracking, Fiber and Sensor Technologies, Microwave Photonics and THz Technology, Intelligent Photonics and Optical Computing.

Submission Guidelines

Submissions will be reviewed in accordance with the normal procedures of the Journal and papers must be formatted according to the Information for Authors found at:

<https://ieeephotonics.org/publications/photronics-technology-letters/>

- Manuscript submissions should be made online at <https://ieeepublish.com/journal/ptl-ieee>
- Select the paper type "**Special Issue on Intelligent Computing and Wireless Optical Communications (ICWOC2025)**."

Important Dates

Open for Submissions: 1 August 2025

Submission Deadline: 1 November 2025

Tentative Publication: April 2026

EARLY ACCESS: DOI-citable articles will be published online after acceptance upon submission of final files and rights selection – sometimes well in advance of issue publication.

For further information, contact the PTL Editorial Office:

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