

Special Session 12 Resilient and Secure Optical Networking for AI Data Center

The rapid development of large-scale AI models has greatly increased the demand for high-capacity, low-latency, and reliable interconnection among Artificial Intelligence Data Centers (AIDCs). Optical networking has become a key technology for supporting distributed AI training and inference, enabling the high-capacity interconnection of distributed clusters. However, AI workloads are highly dynamic and impose strict requirements on network resilience, security, and intelligent resource management. Meanwhile, emerging threats such as cyberattacks, link failures, and service disruptions pose serious challenges to maintaining continuous and trustworthy AI services. Future AIDC networks require not only high-performance optical transmission but also fast fault recovery, secure communication, intelligent orchestration, and automated operation. This special session focuses on the resilient and secure optical networking for AIDC, and welcomes both academia and industry to exchange ideas and share their latest work.



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Topic of Interest

- Resilient optical network architectures for AIDC
- Secure optical communication and transmission technologies
- Optical network protection, restoration, and survivability
- AI-driven network monitoring, fault diagnosis, and predictive maintenance
- Intelligent routing, traffic engineering, and resource orchestration for AI workloads

- Optical switching and interconnect technologies for AI clusters
- Joint optimization of computing, storage, and optical networking resources
- Digital twins and network automation for AIDC networks
- Energy-efficient and sustainable optical networking for AI infrastructures

Important Dates

Submission Due:	2026-July 1st
Notification Due:	2026-July 25
Camera-ready Due:	2026-August 10

Submission



Submission Link:

<https://easychair.org/conferences/?conf=icct2026>
(Please choose Special Session 12)