



Call for Papers for *Optical Networks and Systems Symposium*

Symposium Co-Chairs

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Scope and Motivation

An ever-increasing demand on network capacity is attributed to the dramatic surge in data traffic, which is directly related to growing number of Internet-of-Things and Tactile Internet applications and the exponential rise and adoption of connected devices and sensors in new industries, such as energy and utilities, manufacturing, health, defence, transportation and logistics, among others. Further, the recent outbreak of COVID 19 has changed the way people conduct their work and kids perform their learning. Online learning and video conferencing have become the new services that are consuming much bandwidth and adding much traffic to our networks and telecommunication systems. These emerging trends not only contribute to the growth in data volumes, but also pose entirely new challenges related to end-to-end performance in terms of latency, reliability, energy efficiency, security *etc.* This is impacting various technologies on all network segments from the edge (access) up to the core (backbone) and also datacenters, demanding substantial advances in optical systems and networks. The Optical Networks and Systems Symposium solicits research papers describing significant and innovative research contributions to the field of optical communication networks and systems. We invite submissions on a wide range of research topics, spanning both theoretical and systems research.

Topics of Interest

The Optical Networks and Systems Symposium intends to showcase the latest developments in all research areas related to optical networks and systems. The Symposium cordially invites original contributions in, but not limited to, the following topical areas, plus others not explicitly listed but are closely related:

- Artificial Intelligence and machine learning for optical systems and networks
- Big data driven optical networking
- Cross-layer design of optical networks
- Coding, modulation and signal processing techniques for optical systems
- Data analytics for optical networks
- Elastic, flexible rate and flexi-grid optical networks
- Energy efficient optical networks and systems
- Free space optical communications and networks

- Network techno-economic analysis
- Network function virtualization and slicing in optical networks
- OFDM and MIMO for optical systems
- Optical virtual private networks (O-VPN), optical cloud networks, optical datacenter networks
- Optical technologies, components, and sub-systems for telecom networks
- Optical network control and management
- Optical interconnects for high performance computing
- Optical network demonstrators, testbeds and trials
- Optical networks and systems for cloud and edge-computing
- Optical networks and systems standards
- Optical network technologies, architectures, design and performance evaluation
- Optical network security
- Optical transmission systems, performance monitoring, and channel characterisation
- Innovations in optical X-haul networks for 5G and beyond and fixed-mobile convergence
- Optical vehicular networks
- Optical wireless (infra-red, visible, and ultra-violet light) communications and networks
- Protection and restoration, survivability and disaster recovery in optical networks
- Quantum communication and networking
- Radio-over-fiber systems
- Software defined networking (SDN) for optical networks
- Underwater optical communications
- Ultraviolet communications and networks
- Impact of physical-layer impairments and non-linearities on optical network design
- Lighting constrained visible light communications and networks
- Optical spectrum allocation, slicing and reconfiguration
- Optical access networks (PONs, AONs, and FTTx architectures)
- Optical networks and systems for IoT and smart grids
- Optical wavelength-division, time-division, and code-division multiplexing (WDM, OTDM, OCDM)

Important Dates

Paper Submission: 12 October 2020

Notification: 25 January 2021

Camera Ready and Registration: 22 February 2021

How to Submit a Paper

All papers for technical symposia should be submitted via [EDAS](#). Full instructions on how to submit papers are provided on the IEEE ICC2021 website: <https://icc2021.ieee-icc.org/>