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Optical Networks and Systems Symposium

Symposium Co-Chairs

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Scope and Motivation

Recently, after the unmatched popularity achieved during the dot-com bubble era, optics is gaining back attention. In particular, the development of new bandwidth and QoS-greedy applications (e.g., IPTV, peer-to-peer communications) and the ubiquitous high-speed access offered by wireless technologies (e.g., WiMAX and LTE) are fostering the deployment of optical access technologies for both direct user access or as a backhaul for wireless access networks. The increase of traffic injected by hybrid wired and wireless access and metro networks is then foreseen to foster the further development of all-optical core networks. In addition optical systems are being applied to sensing and life science (e.g., biophotonics) besides the traditional communications field. Moreover optical networks are considered for supporting interprocess communications, from optical network support for grid computing to chip-to-chip and board-to-board communications. Furthermore even in optical networks and systems interests are growing toward energy efficient "green" solutions. Finally new modulation formats are being studied and tested. The Optical Network and System Symposium aims at bringing together experts working in several of the aforementioned fields. Among the main topics addressed by the symposium will be optical network data, control, and management plane, all-optical network physical impairments, novel optical modulation techniques, and energy efficiency in optical networks.

Main Topics of Interest

- Wavelength division multiplexing
- Optical time-division and code-division multiplexing
- Optical modulation and signal processing
- Modulation and coding for optical transmission
- Optical transmission systems and performance monitoring
- Optical system modeling and performance evaluation
- Optical switching technologies, devices, and architectures
- Optical crossconnects and add drop multiplexers
- Dispersion and nonlinearity management in optical networks
- IP-WDM integration
- Optical network architectures
- All optical networks
- Optical network design and reconfiguration

- Optical network control and management
- Optical networks performance evaluation
- Routing and wavelength assignment
- Traffic grooming and traffic engineering
- Dynamic traffic management in optical networks
- Multi-granularity switching
- Multicasting in optical networks
- Optical Packet Switching
- Optical Burst Switching
- Protection and restoration in optical and multi-layer networks
- Optical access networks
- Optical Networks in support of Grid and Cloud Computing
- Storage networks
- Free space optics
- Terrestrial and submarine optical networks
- Optical network security
- Optical virtual private networks
- Optical network experiments: demonstrations, test beds and field trials
- Signaling and monitoring in optical networks
- Impact of the physical-layer impairments on optical network design and traffic engineering
- Multi-domain optical communications
- MAC protocols in optical networks
- Optical network standardization issues
- Efficient simulation techniques for optical networks
- Applications requiring optical networks
- Optical network and system testbed and field trials
- Optical Interconnetcs
- Energy efficient/green optical networks and systems
- Optical sensing
- Biophotonics
- Short reach optics
- Optical and wireless network integration
- Radio over fiber