

Challenges and Opportunities in Advanced Optical Networking

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Optical communication systems and networks will continue to play a significant role in the development and deployment of emerging network infrastructures. These networks are expected to support the diverse requirements of a broad range of applications as they are evolving dramatically in terms of technology and architecture towards a more flexible and intelligent optical network layer based on Dense Wavelength Division Multiplexing (DWDM) utilizing new optical switching architectures and technologies as well as advanced control and management protocols. Optical component technology is rapidly maturing, offering cost effective solutions to a point where optical networks are currently being deployed in core backbone networks, and are gaining increased interest for deployment in metro and access environments. The widespread deployment of optical communication systems and networks provides many significant challenges which will be addressed in this special issue.

The purpose of this special issue is to provide a forum for researchers in academia and industry to present and discuss the challenges and possible solutions, potential new opportunities, and emerging standards for the development, deployment, and application of optical networks.

The special issue will consist of peer-reviewed papers focusing on the following topics:

- Network architecture, modeling, planning, and design
- Optical packet switching
- Optical burst switching
- Routing and wavelength assignment
- Traffic grooming
- Multicasting in optical networks
- Protection and restoration
- Network control and management
- Impact of switching technology and transmission impairments on performance
- Architectures for optical cross-connects, add-drop multiplexers
- Optical core, metropolitan and access networks
- Optical network experiments (demonstrations, test beds and field trials)
- WDM transmission systems
- IP and MPLS over DWDM: integration and interworking
- Optical network security aspects
- Network reliability and availability
- Optical network infrastructures suitable for grid applications
- Optical Storage Area Networking
- Quality of service (QoS) in optical networks

IMPORTANT DATES

Manuscripts due: **JUNE 1, 2007**
Notification of acceptance: **OCTOBER 2007**

Final revised manuscript due: **NOVEMBER 2007**
Publication: **MARCH 2008**

SUBMISSION GUIDELINES

All the papers will be subject to a thorough peer review. Authors, please take care to present your manuscripts clearly and in good English.

All manuscripts and any supplementary material should be submitted via the journal's online submission and peer-review systems at <http://www.editorialmanager.com/comnet/>. A prospective author should

1. Register in Editorial Manager (follow the instructions on the site)
2. Select: Submit Manuscript from Main Menu
3. When choosing Article Type please select the title of the special issue ("SI: Optical Networking" for this Special Issue submission) you are submitting to. For any further information about this Special Issue, please contact Davide Careglio, email: careglio@ac.upc.edu

Formatting guidelines for manuscripts can be found at <http://authors.elsevier.com/PublisherInfoDetail.html?dc=AGI>

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