



Special Issue on All-Optically Routed Networks

The evolution of communication networks is driven by a huge increase of end user traffic and bandwidth demands due to the recent massive deployment of broadband access technologies as well as the outburst of new network applications and emerging service oriented applications. The observed trends are accompanied by the advances in optical technologies which have enabled the development of long-distance and high-capacity transmission systems. Although, nowadays the role of optics in communication networks is limited mainly to the realization of transmission and some limited switching functions, next generation optical networks are foreseen to perform extended switching and control processing operations in the optical domain. Apart from answers to existing technology challenges, the development of all-optically routed networks imposes the need for novel approaches and solutions to meet the requirements dictated by the evolving and new services that are becoming available to the end users. Particular topics of interest include fast provisioning of high bandwidth services, dynamic management of end-to-end resources in an efficient and reliable manner, support of a wide range of service granularities, design and development of power-efficient protocols and equipment, guarantee of both quality of service and transmission for various user applications, and support of network and user data security. It is important to note that these issues need to be addressed aiming at overcoming the limited network scalability and flexibility of today's network infrastructures suffering by insufficient network manageability and increased overall capital and operational expenditure leading to high network services costs.

The scope of this special issue is concentrated on current research activities that aim at the development of all-optical communication networks, and includes among others topics such as:

- Control and management of all-optical networks
- Energy- and cost-efficient optical networks
- Experimental testbeds of optical systems
- Hybrid optical / wireless networks
- Optical access networks
- Optical burst / packet switching
- Optical internet
- Optical network security, reliability, survivability, and quality of service provisioning
- Optical signal processing
- Optical switching & routing
- Physical impairment-aware optical networking

Submission

Prospective authors should submit high quality and original contributions that have not appeared, nor are under consideration, in any other journals. Submissions should follow the guidelines of Journal of Communications, which can be found at: <http://www.academypublisher.com/jnw/forauthors.html>.

Manuscripts should be submitted electronically to the corresponding Guest Editor, Dr. Anna Tzanakaki at atza@ait.edu.gr. For further questions or inquiries, please contact the corresponding Guest Editor

Important Dates

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