

## Call for Papers

### Elsevier Journal of Optical Switching and Networking (OSN) Special Issue on Green Communications and Networking

Responsible use of energy has become a crucial issue in large networks and information systems in general in the last few years. Energy efficiency is now a critical item in the list of performance metrics of networking equipment and networked systems. Understanding and economizing energy use has emerged as a high-impact research area in networking system of all kinds. Recent studies suggest that the core network expends the largest fraction of the energy consumed by a large network system, and network energy expenditure can be a significant part of planetary computing and communication, contrary to earlier belief that the bulk of energy expenditure is at end-systems or at most the edge network. The role of interaction between end-systems and the network has also been recognized in achieving better energy economy.

The OSN special issue on Green Communications and Networking will archive timely research in this area particularly relevant to optical networking design and technologies. The SI may also publish tutorial material suitable for introducing active researchers to different aspects of this new research area. Tutorial articles will be expected to address a broad range of issues in order to be considered suitable. Topics of interest for original research contributions include, but are not limited to:

- Metrics of energy-efficiency in optical networks and equipment
- Measurements of energy expenditures, data and methodology
- Energy efficient devices and designs
- Hardware, architectural, and protocol support issues for energy economy
- Network design (topology, grooming, placement, wavelength assignment, traffic engg., etc.) in support of energy economy
- Energy issues in PONs
- Energy efficient interaction of network with smartgrids of clouds
- Energy-optimal split between optical and electronic layers (e.g., IP-Ethernet-WDM)
- Energy Efficient Optical Ethernet
- Optical Switching in Routers and Switches for Reducing Power Consumption
- Hierarchical techniques of energy efficiency
- Energy awareness in network equipment and operations
- Business models of energy-efficient optical networks
- Cooperation between network and endpoints for improving energy efficiency
- Optical Networking for Green Datacenters

All submissions must be original work not previously published or currently under review by any other journal. Partial overlap with previously published conference or workshop papers is acceptable, but must be disclosed at the time of submission. Submission, review, and decision process will use the usual Elsevier OSN portal, accessible through <http://ees.elsevier.com/osn/admin/default.asp>. During submission, please make sure to select 'SI: Green Communications' when you reach the "Article Type" step. More details about the journal in general, and author guidelines, can be found from <http://ees.elsevier.com/osn/>.

#### Important dates :

Original submission deadline: June 1, 2010

Review decision to authors: September 1, 2010

Final camera-ready deadline: October 15, 2010

SI publication: Early (1Q or 2Q) 2011

#### Guest Editors:

Rudra Dutta (North Carolina State University, USA)

Dominic Schupke (Nokia Siemens Networks, Germany)

Yoh Somemura (NTT Labs, Japan)