

IET Optoelectronics Call for Papers

SPECIAL ISSUE ON: Green Photonics



Energy efficient processes are increasingly key priorities for ICT companies with attention being paid to both ecological and economic drivers. Although in some cases the use of ICT can be beneficial to the environment (for example by reducing journeys and introducing more efficient business processes), countries are becoming increasingly aware of the very large growth in energy consumption of telecommunications companies. In particular, the predicted 1-2 orders of magnitude future growth in the number of connected devices and the bandwidth of the Internet itself is not practical if it leads to a corresponding growth in energy consumption.

This Special Issue is therefore of great importance in seeking to establish the role and impact of green photonic technologies in reducing the carbon footprint of ICT systems. This will represent a significant departure from accepted practices where photonic components and systems were designed to meet the growing demand, with little regard for the energy consequences. The Special Issue will highlight recent advances in energy efficient photonic components and systems and their use in ICT and telecommunication systems and networks. Contributions are sought that address (but are not limited to):

- electronic routing versus photonic switching for energy minimisation
- low cost, low energy large photonic switching fabrics
- uncooled switching and routing components
- intelligent low power photonic router circuits and applications in networks
- photonic hardware power consumption models
- photonic network components monitoring for energy consumption minimisation
- transmission energy saving
- energy efficient photonic signal processing
- energy efficient photonic circuit, burst and packet switching technologies
- carbon footprint of photonic systems and comparison with electronic switching, routing and processing
- photonics for energy efficient network design
- fundamental limits of energy consumption

All papers must be submitted through the journal's ScholarOne Manuscripts™ system:
<http://mc.manuscriptcentral.com/iet-opt>

Proposed publication schedule:

Deadline for submission of papers: 31 December 2010

Authors to receive a 1st decision by:

30 April 2011

Final notification of acceptance:
30 August 2011

On-line and print publication:
Late 2011

Special Issue guest editor:

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