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# Optoelectronic Interconnects and Component Integration X (OE111)

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Part of the SPIE International Symposium on SPIE OPTO: Optoelectronic Materials, Devices and Applications  
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Continuing increase of signaling speeds in electronic systems fuel strong R&D efforts in ultra short reach optical interconnects. Also market requirements for increasing performance of photonic devices coupled with cost and size reduction pressures stimulate strong research activities to support increasing levels of integration, miniaturization, and process automation in photonics. This conference will address a number of topics related to optical interconnects; device and component integration, assembly, and testing; materials science and technologies for photonics applications; as well as micro-optics and nano-photonics in component design and manufacturing.

Papers are solicited in the following areas:

## Optical Interconnects (OI)

- board-to-board and chip-to-chip OI
- waveguide, substrate guided, lay-in fiber and free space OI
- active optical cables
- ultraperformance intrachip communications
- light sources and high-speed detectors for OI
- component assembly; fully embedded components
- 3D optical routing and assembly
- connectors and light coupling approaches
- advanced OI fabrication and processing technologies
- insertion of OI in Si CMOS process compatible environment
- new trends in ultra short reach optical links.

## Parallel Optical Links (POL)

- integration and packaging of transceivers for POL
- on-board POL for Tb/s opto-boards
- optical bus architectures for on-board OI
- laser and photodiode arrays for POL applications
- assembly and alignment of arrayed components
- optical and electrical design for POL.

## Micro-optics and nanophotonics

- refractive and diffractive microoptic elements for device packages, interconnects, displays, sensors
- lenses, lens arrays, fiber arrays, surface gratings, Bragg gratings, holographic optical elements (HOE)
- microoptic systems and integrated microoptics
- beam shaping and thermal/spectral management of laser diodes
- nano-fabrication technologies for optical elements.

## Component integration

- integration and assembly of planar lightwave circuits (PLC), high-power lasers, high-speed transceivers, optical sensors
- integrated component design and fabrication
- hybrid and monolithic device integration
- passive micro-optic alignment methods
- O/E integration for III-V and Si photonics
- multi-channel device packaging

- thermal and structural modeling op
- tical alignment and attachment automation.

**Materials technology**

- advanced photonics packaging materials
- polymers for integrated optics and interconnects
- polymer optical fibers (POF)
- packaging adhesives and their reliability
- nano-materials and applications
- holographic materials.

**Abstract Due Date: 13 July 2009**  
**Manuscript Due Date: 18 December 2009**

# Submission of Abstracts for SPIE OPTO: Optoelectronic Materials, Devices and Applications

Abstract Due Date: 13 July 2009  
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