

# WINDS 2010: Workshop on the Interaction between Nanophotonic Devices and Systems

Co-Located with the 43rd International Symposium on Microarchitecture  
Sunday, December 5th, 2010 • Atlanta, Georgia  
<http://www.csl.cornell.edu/winds2010>

## Workshop Organizer

Christopher Batten  
*Cornell University*

## Technical Program Committee Chairs

David Albonese  
*Cornell University*

José Martínez  
*Cornell University*

## Technical Program Committee

Nathan Binkert  
*HP Labs*

Luca Carloni  
*Columbia University*

Ajay Joshi  
*Boston University*

Nevin Kirman  
*Intel Labs*

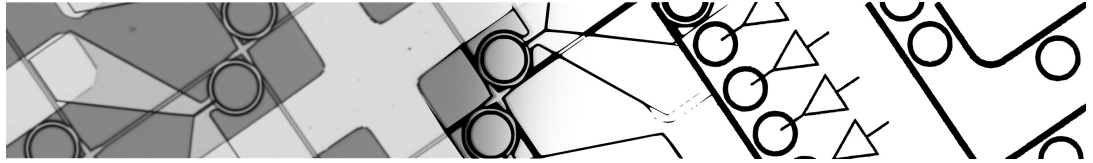
Herb Schwetman  
*Oracle, Sun Labs*

## Important Dates

Submission  
Deadline  
*October 15, 2010*

Notification of  
Selection  
*October 29, 2010*

Final Abstract  
Submission  
*November 15, 2010*



Technology scaling will soon enable high-performance processors with hundreds of cores integrated onto a single die, but the success of such systems could be limited by the corresponding chip-level interconnection networks. Nanophotonic networks are a promising direction that attempt to provide improved performance, bandwidth density, and energy efficiency compared to projected electrical networks. There has recently been significant progress at the nanophotonic device level, and there have also been many recent system-level proposals that explore how to use these devices in intra- and inter-chip networks. The goal of this workshop is to bring together device-level and system-level nanophotonic researchers to talk about their work and to share their experiences with this emerging technology.

This full-day workshop will be held on Sunday, December 5, 2010, co-located with MICRO-43 in Atlanta, GA. The workshop will include short tutorial presentations, invited speakers, keynote, and presentations selected by the technical program committee based on extended abstract submissions.

We invite submissions from both device-level and system-level researchers investigating all aspects of nanophotonic interconnection networks. We will accept submissions in two categories: (1) new unpublished work, and (2) a summary of the system-level implications of a paper previously published or under review outside traditional computer architecture forums (e.g., device, circuit, or CAD communities). Topics of particular interest include, but are not limited to:

- Theory and modeling of nanophotonic devices and systems
- Intra- and inter-chip nanophotonic system designs
- Nanophotonic technology projections and roadmaps
- Techniques for mitigating physical design issues such as thermal and process variation
- Computer-aided design (CAD) for nanophotonic systems
- Experimental device-level characterization and system-level implications
- Prototype nanophotonic systems or experimental test infrastructure for such systems

## Submission Details

Participants are invited to submit an extended abstract of up to two pages (single or double column, 10pt, single spaced). Please include the authors' names, affiliations, and indicate if the submission is a category 1 or 2 submission. Category 2 submissions should clearly reference the original publication. Submissions must be in PDF format and should be emailed to [winds2010@csl.cornell.edu](mailto:winds2010@csl.cornell.edu) by October 15, 2010.

Participants may also include an appendix of any length. However, we will not promise to read the appendix, so the extended abstract should stand alone as a coherent description of the work. The appendix can provide additional details such as device micrographs, more detailed results, or a copy of the previous publication for category 2 submissions.

Extended abstracts and presentation slides will only be posted on the workshop website with permission of the authors. Authors should feel free to submit work in progress or work under review (where permitted) without fear of double publication issues.