

Program co-Chairs' Introduction

Welcome to Hot Chips 16, the premier conference for designers and architects of high-performance chips.

In recent years much of the action in chip design has been aimed at mobile and media devices: the cell phones, televisions, and other consumer electronics devices that consume the bulk of all computing cycles. This year's program reflects that trend with sessions on media and graphics processing, mobile devices, wireless communication, and low-power processors. Also in keeping with the tradition of hot chips we have a full session on the latest "big iron" microprocessors with papers from Intel and Sun. We have papers ranging from Nvidia's latest graphics chip to the latest member of the Itanium® processor family.

Hot Chips provides a unique perspective on chip design. The conference collects presentations on the bleeding edge of integrated circuit design. It is unique in being a practical, technical conference – describing technical details of real chips – as opposed to the usual academic technical or commercial marketing conferences. The short review cycle and publication of presentation slides, rather than full papers, results in timely presentations – the conference covers the very latest chips from both startups and leading companies.

This year, we have an unusually strong program. This is the result of a record number of submissions and hard work on the part of our program committee in soliciting papers on the latest and greatest chips. From this large field of excellent submissions, the program committee has selected 24 papers that represent the very best of current activity in chip design – 24 very "hot" chips. Limited space in the program forced us to turn away many excellent submissions. We also have two tutorials – on memory devices and ultra-wide-band, and two exciting keynotes – on nanotechnology and the Mars rover. To top things off, we have a panel on a topic of interest to many chip designers – outsourcing technical jobs offshore.

The quality of this year's program is due to the efforts of many people. First of all, thanks are due to all of the authors who submitted abstracts. The submitted abstracts capture the vitality of the field and provide the essential ingredient of the conference. Thanks are due to the program committee: Forest Baskett, Allen Baum, Pradeep Dubey, Norm Jouppi, Christos Kozyrakis, John Nicholls, Tom Petersen, Chris Rowen, Mitsuo Saito, John Sell, Alan Smith, and Mateo Valero. The committee members spent many long hours soliciting submissions, reading and critiquing the abstracts, participating in the selection process, and shepherding presentations. We trust that you will find the result of this process as exciting as we do.

William Dally and Keith Diefendorff