HOT CHIPS brings together designers and architects of high-performance chips, software, and systems. Presentations focus on up-to-the-minute real developments. This symposium is the primary forum for engineers and researchers to highlight their leading-edge designs. Three full days of tutorials and technical sessions will keep you on top of the industry.

### ADVANCE PROGRAM

#### HOT CHIPS 22

A Symposium on High-Performance Chips  
August 22-24, 2010, Memorial Auditorium, Stanford University, Palo Alto, California

#### Morning Tutorial: Non-Volatile Memory
- Forging a Future in Memory  
  Ed Dollar  
  Micron
- Status and Prospect for MRAM Technology  
  Saied Tehrani  
  Everspin
- Metal Oxide RRAM as a Future Non-Volatile Memory  
  Paul Kirsch  
  Sematech
- Solid-State Disks in Enterprise Systems  
  TBD  
  IBM
- Storage Class Memory  
  Richard Freitas  
  Silicon Storage

#### Afternoon Tutorial: Optical Interconnects
- Overview: VCSELs to Silicon Nanophotonics  
  Ashok Krishnamoorthy  
  Oracle
- Silicon photonics in the data center  
  Al Davis  
  U. of Utah, HP Labs
- Silicon photonics and memories  
  Vladimir Stojanovic  
  MIT
- Hybrid on-chip data networks  
  Gil Hendry  
  Columbia
- Multi-chip photonic network  
  Frankie Liu  
  Sun Labs, Oracle

#### High Performance Computing
- Fermi GF100: A GPU For Compute, Tessellation, and Computational Graphics  
  NVIDIA
- End of Scaling of Traditional Microprocessors  
  Schlumberger, Stanford
- Adaptive Energy Management Features of POWER7  
  IBM

#### Keynote 1
- Hartmut Neven  
  Google
- Searches Originating Inside and Outside of Your Head

#### SoCs
- The New Xbox 360 SoC  
  Microsoft
- Extensions to the ARM v7-A Architecture  
  ARM
- Solving 4G Challenges with Multi-Core Baseband SoCs  
  Mindspeed
- GreenDroid: A Mobile Application Processor for a Future of Silicon Carbon
  UCSD, MIT

#### Networking & the Data Center
- A Wire-Speed Processor: 16 POWER(r) Cores with 64 Threads per Core  
  IBM
- Smart Memory for High-Performance in Network Packet Forwarding  
  Huawei
- IMB: Enabling Low-Power Cloud Computing and Server Virtualization  
  Inphi
- Panel: Asia: Partner or Competitor?
  Xuemei Zhan  
  IBM
  John Selby  
  Microsoft
  Mike Albright  
  Apple
  Alice Erickson  
  Apple
  Consulting

#### FPGAs
- 28nm Generation Programmable Families  
  Xilinx
- Stratix V with 28Gbps Transceivers in 28nm  
  Altera
- 3D FPGA for Improved Density, Power and Performance  
  Tier Logic

#### Interconnects
- ICC: An Interconnect Controller for the Tofu Architecture  
  Fujitsu
- The Hub Module in 45nm CMOS SOI: A Terabyte Interconnect Switch  
  IBM
- Silicon Photonics: Optical Connectivity at 25 Gbps and Beyond  
  Luxtera
- Spidergon STNoC: Network-on-Chip Gives Added System Value  
  ST Microelectronics

#### Keynote 2: Burkhard Huhnke
- Korean researchers' first attempts to design a large FPGA  
  VW Palo Alto Lab

#### Electronics in Cars
- Westmere-EX: A 20-Thread Server CPU  
  Intel
- Architectural Innovations in Westmere-EP  
  Intel
- GS464V: A High-Performance Low-Power XPU  
  Chinese Academy of Sciences

#### New Processor Architectures
- The Next-generation System z Micro-Processor  
  IBM
- AMD's "Bulldozer" Core - Multi-Threaded Compute  
  AMD
- AMD's "Bobcat" x86 Core - Small, Efficient and Strong  
  AMD

#### Please visit us on the web: [http://www.hotchips.org](http://www.hotchips.org)  
or drop us a line via Email: info2010@hotchips.org

#### Hot Chips 22

![Hot Chips 22 Logo](http://www.hotchips.org)

This is a preliminary program; changes may occur. For the most up-to-the-minute details on presentations and schedules, and for registration information, please visit our web site where you can also check out HOT Interconnects (another HOT Symposium being held following HOT CHIPS)

---

**Organizing Committee**

**Chair**  
Charlie Neuhauser  
Neuhauser Associates

**Vice Chair**  
Ralph Wittig  
Xilinx

**Finance**  
Lily Jow  
HP

**Publicity**  
Kevin Krewell  
NVIDIA

**Member at Large**  
Allen Baum  
Intel

**Advertising**  
Don Draper  
True Circuits

**Sponsorship**  
Amar Zaky  
Broadcom

**Publications**  
Randall Neff  
Intel

**Registration**  
Michael Sobelman  
Rambus

**Facilities and Video**  
Lance Hammond  
Apple

**Local Arrangements**  
John Sell  
Microsoft

**Volunteer Coordinator**  
Larry Lewis  
Apple

**Production**  
Mike Albaugh  
Apple

**Webmaster**  
Alice Erickson  
Alice Erickson Consulting

**CTO**  
Yusuf Abdulghani  
Emeritus

**Steering Committee**  
Keith Diefendorff  
Apple

**Program Committee**  
Don Alpert  
Camelback Arch.

**Program Co-Chairs**  
Will Eastherton  
Juniper

**Chair**  
Jose Renau  
UC Santa Cruz

**Program Committee**  
Kris Asanovic  
UC Berkeley

**Em,Coo**  
Bevan Baas  
UC Davis

**Program Committee**  
Forest Baskett  
NEA

**Board & Directors**  
Bill Dally  
Stanford

**Program Committee**  
Pradeep Dubey  
Intel

**Emeritus**  
Howard Sachs  
UC Berkeley

**Program Committee**  
Alan Jay Smith  
Intel

**Program Co-Chairs**  
Chris Thomas  
Orca Systems

**Program Committee**  
Dan Lenoski  
Cisco

**Program Coordinator**  
Eugene Santamarina  
Oracle

**Local Arrangements**  
Jason Phan  
Xilinx

**Local Arrangements**  
Kevin Krewell  
NEC

**Local Arrangements**  
Bill Dally  
Stanford

**Program Coordinator**  
Ralph Wittig  
Xilinx

**Founder**  
Bob Stewart  
SRE