

August 26, 1991— Memorial Hall Auditorium

8:30 – 8:45

Welcome and Opening Remarks

Martin Freeman, General Chair

Forest Baskett and John Hennessy, Program Co-Chairs

8:45 – 10:15

Session 1: High-Performance Processors – 1

Session Chair: John Hennessy, Stanford University

- **SuperSPARC™: A Fully Integrated Superscalar Processor**
Greg Blanck, Sun Microsystems
Steve Krueger, Texas Instruments
- **MIPS R4000 Technical Overview**
Earl Killian, MIPS Computer Systems
- **PA-RISC Processor for "Snakes" Workstation**
Charles Kohlhardt, Hewlett Packard

10:15 – 10:45

Break

10:45 – 12:15

Session 2: Highly Parallel Chips

Session Chair: Martin Freeman, Philips Research

- **The LIFE Family of High-Performance Single Chip VLIWs**
Gerrit Slavenburg and Yen Lee, Philips Research Palo Alto
Andrew Huang, CMU
- **The Message-Driven Processor**
 - William Dally, J. Stuart Fiske, Waldemar Horwat, John Keen, Richard Lethin, Michael Noakes and Peter Nuth
MIT Artificial Intelligence Laboratory
 - D. Scott Wills, University of Central Florida
 - Andrew Chien, University of Illinois
 - Salim Ahmed, Paul Carrick, Roy Davison, Greg Fyler
Steve Lear, Mark Vestrich and Teg Nguyen, Intel
- **The TRW CPUAX Superchip**
A. Miscione, R. Almeida, H. Hennecke and R. Mann
TRW Electronics and Technology Division

12:15 – 1:45

Lunch at Wilbur Hall Canopy

1:45 – 3:15

Session 3: High-Performance Processors – 2

Session Chair: Forest Baskett, Silicon Graphics

- **An 80 MHz 64-Bit Floating Point RISC Processor with Direct DRAM Support**
James Hesson, Micron Technology
- **The i860™ XP: 2nd Generation of the i860™ Supercomputing Microprocessor Family**
David Perlmutter and Michael Kagan, Intel Israel
- **Beyond Claims of Free Transistors and Abundant Instruction-Level Parallelism**
Michael Smith, Stanford University

3:15 – 3:45

Break

3:45 – 5:15

Session 4: Low Power and Low Cost

Session Chair: Alan Smith, U.C. Berkeley

- **Tera microCORE Chipset**
Greg Favor, Tera Microsystems
- **The SparkIT™ Chipset**
Mohammed Wasfi, LSI Logic Corporation
- **SPARCcore Modules**
Raju Vegesna, Ross Technology

5:15 – 7:15

Reception at Wilbur Hall Canopy

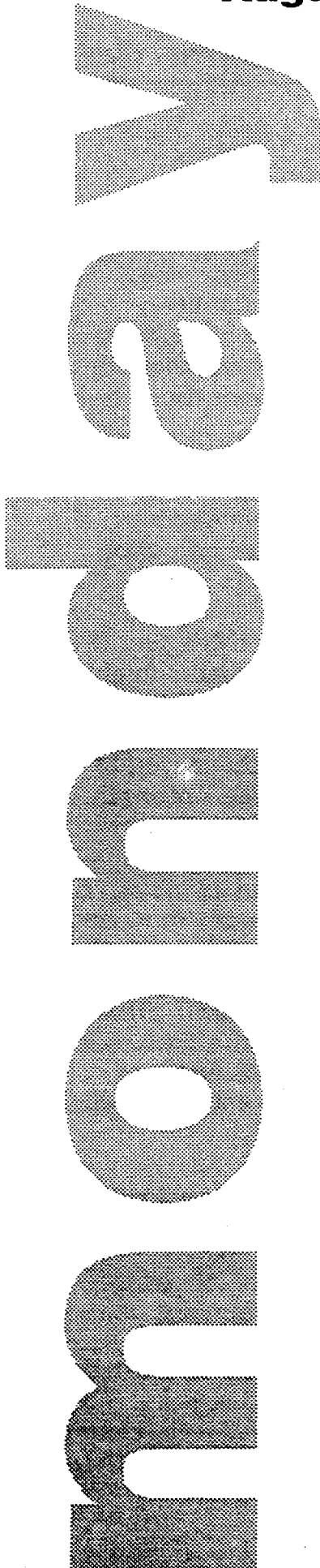
7:30

Evening Panel Session

Five Instructions Per Clock: Truth or Consequences

Session Chairs: Alan Smith, U.C. Berkeley and John Mashey, MIPS Computer Systems

Panelists: Joseph A. Fisher, Hewlett Packard Laboratories; Norm Jouppi, DEC Western Research Lab; Monica Lam, Stanford University; James Smith, Cray Research; David Wall, DEC Western Research Lab



August 27, 1991— Memorial Hall Auditorium

9:00 – 10:30

Session 5: Communications

Session Chair: Teresa Meng, Stanford University

- **A GaAs 200 Mbps 64x64 Crosspoint Chip**
Ron Cates, Vitesse Semiconductor
- **An Enhanced Crossbar Router Chip for a Shared Memory Multiprocessor**
Henry Minsky, Tom Knight and André DeHon, MIT AI Lab
- **The NEURON Chip Family Architecture**
Robert Dolin, Echelon
- **The Protocol Engine Chipset**
Des Young, Protocol Engines

10:30 – 11:00

Break

11:00 – 12:30

Session 6: Caches and Floating Point

Session Chair: John Crawford, Intel

- **MIPS R4000 Caches and Coherency**
Paul Ries, MIPS Computer Systems
- **The Megacell Differentiated Floating Point Product Family**
Merrick Darley, Don Steiss, Peter Groves, David Bural
Maria Gill and Tod Wolf, Texas Instruments
- **82495DX/82490DX: A High-Performance 2nd Level Cache for the i486™ DX CPU**
Adi Gobert, Intel Corporation

12:30 – 2:00

Lunch at Wilbur Hall Canopy

2:00 – 3:30

Session 7: Special Processors

Session Chair: John Mashey, MIPS Computer System

- **A Smart Frame Buffer**
Joel McCormack, DEC Western Research Laboratory
Bob McNamara and Lindsay Gage, DEC
- **CNAPS (Connected Network of Adaptive Processors)**
Dan Hammerstrom and Gary Tahara, Adaptive Solutions
- **SMM, The "Virtual 386™"**
Dave Vannier, Intel

3:30 – 4:00

Break

4:00 – 5:00

Session 8: High-Performance Processors – 3

Session Chair: Dave Ditzel, Sun Microsystems

- **National's Swordfish — A Superscalar with DSP**
Reuven Marko and Motti Beck, National Semiconductor
- **T9000 — Superscalar Transputer**
Bob Krysiak, Richard Forsyth and Roger Shepherd
INMOS Ltd. — SGS-Thomson Microelectronics

5:00

Closing Remarks

Organizing Committee

General Chairman:

Martin Freeman, Philips Research

Program Co-Chairmen:

Forest Baskett, Silicon Graphics

John Hennessy, Stanford University

Treasurer:

Hasan AlKhatib, Santa Clara University

Registration Chairman and

Local Arrangements Chairman:

Robert Stewart, Stewart Research

Publicity Chairman:

Andre Goforth, NASA Ames Research Center

Publication Chairman:

Nam Ling, Santa Clara University

Program Committee

Co-Chairmen: Forest Baskett, Silicon Graphics

John Crawford, Intel

David Ditzel, Sun Microsystems

John Mashey, MIPS Computer Systems

John Hennessy, Stanford University

Teresa Meng, Stanford University

Alan Smith, U.C. Berkeley