1986 IEEE MICROPROCESSOR/CAE WORKSTATION CONFERENCE
(VLSI Devices, Software, Systems, and Applications)
CALL FOR PAPERS & SESSION CHAIRMEN

The 1986 Conference is scheduled to be held at
BALLY'S PARK PLACE CASINO-HOTEL
Boardwalk and Park Place
Atlantic City, NJ
during the period
March 31 to April 3, 1986

Those persons interested in presenting a paper or
interested in organizing a technical session please
contact the 1986 Program Chairman.
Those organizations interested in exhibit space should
contact the 1986 Exhibits Chairman.

General Chairman
M. KORNFIELD
School of Engineering
Widener University
Chester, PA 19013
215-499-4055

Program Chairman
WALT LUCIW
Sperry Corporation
Computer Systems
MSEB-134
P.O. Box 500
Blue Bell, PA 19424
215-542-2760

Exhibits Chairman
MARK MAGELBERG
Decision Data Computer Corp.
100 Witmer Road
Horsham, PA 19044
215-674-3300

For general information please call the 1986 General Chairman

Paper proposals related to but not limited to the following
areas are invited:
- Architecture
- Memory and memory management
- Input/output processors
- Testability
- Design methodologies
- Simulation
- Design and test algorithms
- Microprogramming
- System design/architecture for work stations
- Resource sharing—including LANs and distributed networks
- User interfaces for work stations
- Data bases
- Graphics for engineering work stations
- General CAD/CAT/CAI
- Limitations and new requirements for CAE
- Performance/economic impact
- Expert systems/Artificial Intelligence
- Robotics
- Image processing/voice processing/computer vision
- Computer based video
- Wafer integration/system on a chip
- New technologies such as GaAs
- Social Implications

Mail to: 1986 IEEE Microprocessor/CAE Workstation Conference
c/o IEEE Computer Society
P.O. Box 659
Silver Spring, MD 20901

Please send further information as it becomes available

Name ____________________________
Affiliation _______________________
Address __________________________
City, State, Zip ____________________
General Chairman’s Message .......................................................... iii
Committees ..................................................................................... v

Plenary Session .............................................................................. 1

Session 1: Microprocessors, Simulation and Modeling
(Chairman: B.I. Dervisoglu)
Memory Considerations in the Use of Microprocessors for Finite Element
CAD Stations .................................................................................. 5
     S.R.H. Hoole and P.R.P. Hoole
A High Performance Processor Utilizing Alternative Numeric
Representation .................................................................................. 13
     C. Kesselman, J. Pizarrou, and A. Simoneau
A Functional Mapping for Microprocessor System Simulation ................. 15
     W.K. Marshall, G.W. Zobrist, W. Bach, and A. Richardson
32-Bit CMOS Microprogrammable Microprocessor ................................... 21
     R.K. Bell

Session 2: Public Policy on Computer Technologies
(Chairman: G. Poletti)
The Semiconductor Chip Protection Act of 1984: Protecting Your
Investment in Innovation and Research ............................................. 29
     C.H. Helein and R.A. Beutel

Session 3: Engineering Workstations for the Handicapped
(Chairman: J. Brule)

Session 4: Languages—Databases
(Chairman: T.K. McFarland)
Advanced Symbolic Debugger for C Language ...................................... 41
     K. Kodama, S. Fukushima, and K. Horii
Database Management for VLSI Design ............................................. 49
     K. Rose
Comprehensive Microdiagnostics Development for a VLSI Sub-System .... 57
     P. Giry-Deloison
A Design Methodology for Workstation Integration with Integrated
Circuit Vendor’s Mainframe CAD and Manufacturing Facility ............... 61
     M. Connell, D. Hayes, and R. Perry

Session 5: CAE Systems in the Building Industry
(Chairman: N.L. Soong)
The Opportunities of Microprocessor Based Systems in the Building
Industry (panel introduction) ............................................................ 71
The Computerization of the Building Industry ...................................... 73
     J.E. Mitchell
The Economics of Scale, Micro-systems and Super Micro-systems for
Architects, Contractors, and Engineers ............................................. 75
     N.L. Soong
Integrating CADD in the A/E Office .................................................. 83
     S.L. Fish
Opportunities for Microprocessors in an Architect’s Office .................... 85
     G. Manos
Knowledge-Based Design System ..................................................... 87
     W.L. Glennie
Session 6: Image Processing and Computer Vision
(Chairman: M. Negin)

A Low-Cost Image Processing System ......................................................... 93
  C.L. Chu, S.B. Seshadri, E. Feingold, and O.J. Tretiak

Image Processing/Computer Vision Work Station ........................................ 99
  M. Negin

A Programmable Graphics Processor with Reconfigurable Image Memory .......... 107
  P.T. Hulina and L.D. Coraor

Using Vision Feedback in Printed-Circuit Board Assembly .......................... 115
  A.-R. Mansouri and A. Malowany

Analysis of Simple Algorithms for Smoothing of Noisy Characters ................ 123
  A.M. Veronis

Session 7: CAE-Microprogramming and Modeling
(Chairman: E. Crenshaw)

Functional Logic Modeling and Simulation on PC ........................................ 133
  A.K. Gupta and J.R. Armstrong

A Microprogramming Alternative ..................................................................... 137
  A.A. Ross and M. Provance

System Design of a Nodal Communications Processor .................................... 143
  A. Varma, S. Hariri, R. Smyth, and L. Abbott

Modeling of CAD/CAE Data ......................................................................... 151
  E. Damm and H. Gethoffer

Session 8: Design with Workstations
(Chairman: D.G. Edwards)

Genesil™—A Real Silicon Compiler ............................................................... 157
  S. Mazor

Workstation Architecture for CAE Design ..................................................... 161
  K. Klingsheim

An Integrated Semicustom Design System ..................................................... 167
  E. Gold and L. Fisher

A Programmable Microprocessor Peripheral IC for Real Time Signal Generation and System Test Applications ...................................................... 171
  D.L. Landis and D. Chowdhury

Session 9: Artificial Intelligence and Expert Systems
(Chairman: R.B. Banerji)

Session 10: Epilogue
(Chairman: W. Luciw)

Author Index .................................................................................................. 181