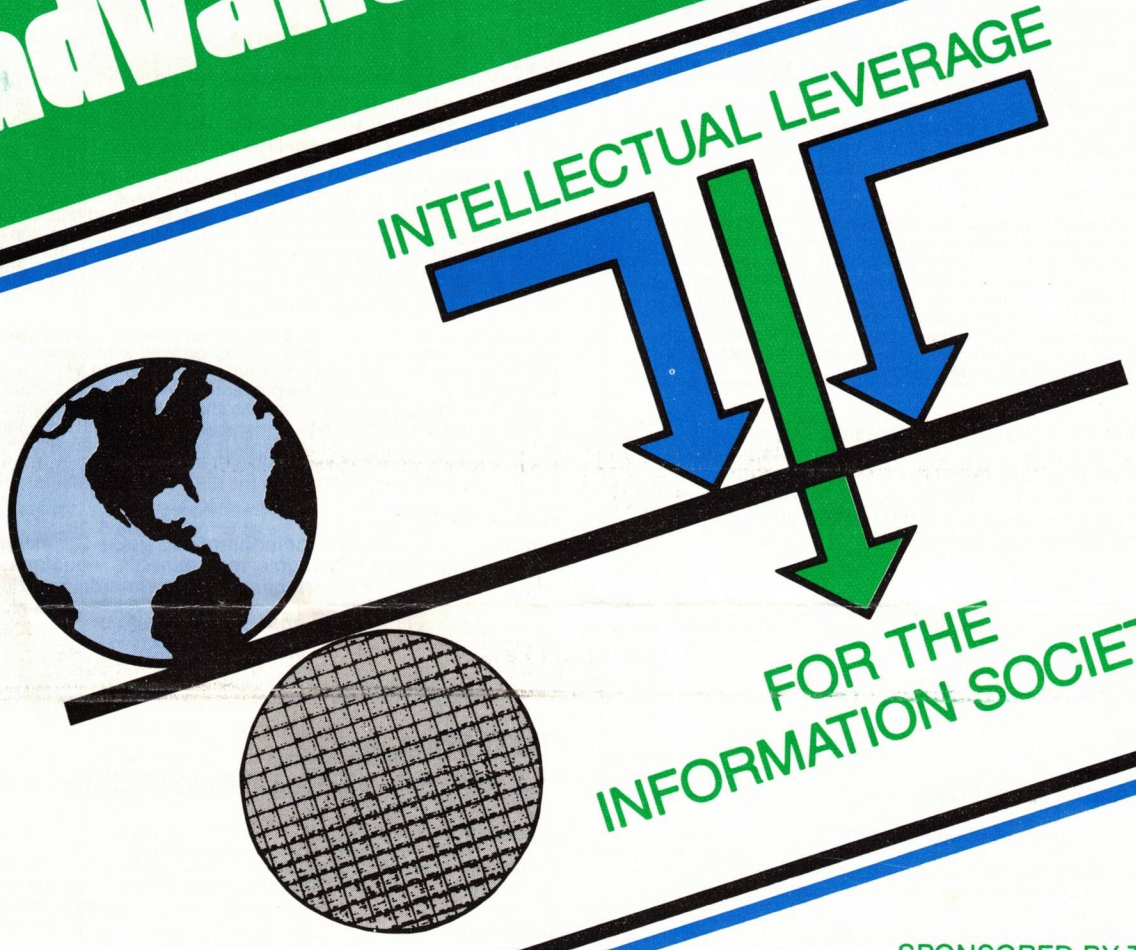
advance program



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THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

FEBRUARY 28–MARCH 3

spring COMPCON 83

TWENTY-SIXTH IEEE COMPUTER SOCIETY INTERNATIONAL CONFERENCE
CATHEDRAL HILL HOTEL (FORMERLY JACK TAR), SAN FRANCISCO, CALIFORNIA

a choice of four pre-conference tutorials

MONDAY, FEBRUARY 28, 1983
9:00 A.M.–5:00 P.M.

TUTORIAL 1

Advanced VLSI Packaging

Instructor: Dimitry Grabbe

Audience: Electronic systems packaging persons concerned with signal management, thermal problems, and manufacturing technology.

Course Description: A fundamental overview will be given of packaging developments which have led to the current high-speed/high-density applications. A discussion on a separate study of printed circuit board materials and process technology which imposes certain practical limits will be held. Similarly, device packaging and its set of problems (inductance, capacitance, delay, dissipation, etc.), and integrating the electronic, electrical, mechanical, and physical problems into one global view will be presented.

Dimitry Grabbe is the director of applied technology at AMP Incorporated in Harrisburg, Pennsylvania. Previously he operated his own company in Lisbon Falls, Maine (Maine Research Corporation) in which he specialized in electronic interconnections and packaging. He holds an ME degree from the University of Munich, Germany. He holds a number of patents in the areas of contacts, diffusion bonding, alloys, electro-chemical processes and I.C. packaging. He is a certified watchmaker, senior member of the Institute of Electrical and Electronics Engineers, and a member of the International Society for Hybrid Microelectronics.

Course Outline:

Printed circuits from 2 to 86 layers • Fine lines/delay lines/transmission lines • Hardware matching materials • Materials for various environments • Surface finishes • Protective coatings • Contacts: resistance, fretting, stability, wear • Thermal management • Direct/indirect/air • Liquid • Assembly materials and processes for very high-density packages

TUTORIAL 2

Ada Programming Language

Instructors: Sabina H. Saib and Robert E. Fritz

Audience: Engineers and computer scientists who are interested in Ada and its application to software projects and embedded computers.

Course Description: This course starts with a brief background on Ada, giving answers to the questions of who, what, where, why, and when for the Ada language. The seminar presents a survey of the key features of the language giving emphasis to Ada's features for developing readable, maintainable, modular systems. We will discuss methods of using Ada to obtain high quality real-time systems.

Sabina H. Saib is Director of the Software Quality Department, General Research Corporation, Santa Barbara, California, where she has directed the development of software test tools and performed research in software engineering. She participated in the evaluations of the designs of the Ada language and its programming environment. She has lectured at the University of California and designed and programmed embedded computer systems for ITT Gilfillan. Saib has a BS and PhD from UCLA and a MSEE from the University of Maryland.

Robert Fritz is an Ada systems programmer with SAI Comsystems, San Diego, California. He was previously associated with Computer Science Corporation as an Ada Projects Coordinator, and held a similar position with a large aerospace firm. He presently serves as chairperson of the AdaTEC Users' Subcommittee and as chairperson of San Diego AdaTEC.

Fritz was an undergraduate in mathematics at Marietta College, in Marietta, Ohio and did graduate work in computer science at Duke University in Durham, North Carolina.

He is a member of the ACM and the IEEE Computer Society.

Course Outline:

Introduction • Schedule for industry and DoD • Basic language • Preventing errors • Readable, maintainable, modular systems • Real-time features • Portability • Environments for Ada

TUTORIAL 3

Use of Programmable Array Logic

Instructors: John M. Birkner and Vincent J. Coli

Audience: Engineers and technical managers engaged in logic design for any applications including computer, electronic consumer products, industrial control, and military.

Course Description: This tutorial provides the computer professional with a working knowledge of how to design with semicustom logic. The key topic is "Design Methodology" for devices using Computer-Aided Design tools. Emphasis is placed on the programmable solution to semicustom logic which includes PAL (Programmable Array Logic) and PROM (Programmable Read Only Memories) devices. However, Gate Array and Standard Cell alternatives will also be considered.

John M. Birkner is a Fellow of Monolithic Memories Inc., Sunnyvale, California and product planning manager for the Programmable Array Logic family. As the inventor of the PAL family and originator of this concept, Birkner defines new architectures for programmable logic circuits. Previous experience includes designing high-performance minicomputers for Computer Automation, radar warning systems for Philco Ford, and parallel processors for Goodyear Aerospace Corp. He holds a BSEE from the University of California at Berkeley and a MSEE from the University of Akron.

Vincent J. Coli is an applications engineer for Monolithic Memories Inc., Sunnyvale, California. His responsibilities include software support and applications assistance for programmable logic devices including PALS and PROMS. Coli is also responsible for PROM product planning. He holds a BS in chemical engineering from Rensselaer Polytechnic Institute and is pursuing a MSEE from the University of Santa Clara on a part-time basis.

Course Outline:

Criteria for selection of different types of semicustom devices • Design methodology • Brush-up on Boolean algebra (if needed) • Available CAD tools • Philosophies of testing and designing for testability • Complete system designs • Logic optimization techniques • State machine synthesis • Survey of available semicustom products • Survey of available PROM/PAL programmers

TUTORIAL 4

The Josephson Junction and its Application

Instructor: Hans H. Zappe

Audience: Engineers, scientists, and technical managers concerned with advanced, high-performance computer hardware and with a special interest in the emerging cryogenic Josephson computer technology.

Course Description: The course establishes a basic understanding of superconductivity, tunneling, and the Josephson effect. This sets the stage for a critical examination of fundamental problems encountered in high-performance computer design for which superconductivity provides intrinsic solutions. The operation of Josephson devices, the design of high-speed logic and memory circuits, and the development of a miniaturized superconductive package will be discussed in the context of recent experimental achievements at the chip and systems level.

Hans H. Zappe is a senior member of the IBM Josephson Project, who laid much of the groundwork of Josephson technology. As a manager, he was responsible for the development of Josephson logic and memory circuits. He was previously concerned with problems of telecommunication, adaptive filter design, and the development of magnetic film devices. Author of many technical papers, he received six IBM Invention Achievement Awards, one IBM Outstanding Contribution Award, and two IBM Outstanding Innovation Awards. Zappe is a member of the APS, AAAS, senior member of the IEEE, and a director on the board of ASC Inc.

He is presently technical advisor to the general manager of the IBM Josephson Project.

Course Outline:

Elements of superconductivity, tunneling, and the Josephson effect • Design problems in high performance systems • Building blocks of a Josephson computer • Josephson logic and memory circuits • Process aspects and chip fabrication techniques • Package technology • Outlook

conference at a glance

TUESDAY, March 1, 1983

9:30am — OPENING CEREMONY

Keynote Address: "Intellectual Leverage in an Information Society"
Lynn Conway, Xerox PARC

	NETWORKS & DATABASES	VLSI & ARCHITECTURE		APPLICATIONS & POTPOURRI	SOFTWARE
1:30-3:00pm	**SESSION 1:** Practical Approaches to Highly Available Systems	**SESSION 2:** "New Wave" Super Minicomputers		**SESSION 3:** Disability Reduction Through Interactive Computation	**SESSION 4:** Implementation of Factory Information Systems
Chairperson:	Jim Gray, Tandem Computers	Dave Patterson, UC Berkeley		Larry Leifer, Stanford University	Helen G. West, Gelzer Systems
3:30-5:00pm	**SESSION 5:** Fault-Tolerance/ Verification of Networks	**SESSION 6:** Advanced Engineering Workstations	**SESSION 7:** The Changing Role of Microarchitecture	**SESSION 8:** Music, Composition, and Computers	**SESSION 9:** Expert Systems
Chairperson:	Leslie Lamport, SRI International	Chong C. Lee, Metheus	Yale N. Patt, University of California	John Strawn, Stanford University	Harold Brown, Stanford University

WEDNESDAY, March 2, 1983

8:30-10:00am	**SESSION 10:** Design and Performance Evaluation of Local Networks	**SESSION 11:** Experiences in VLSI Systems Design	**SESSION 12:** Overcoming Engineering Career Roadblocks	**SESSION 13:** Low Cost Non-Keyboard Input Devices	**SESSION 14:** French Software Technology
Chairperson:	Norm Schneidewind, Naval Postgraduate School	Jim Rowsen, VLSI Technology	J. Werner, A. Barauck, H. Howell, IEEE PACE Committee	George White, Texticon	Jean-Claude Rault, Agence d'Informatique Etablissement Public National
10:30am-noon	**SESSION 15** Design Experience with Local Networks	**SESSION 16:** New Chips	**SESSION 17:** Computer Ethics	**SESSION 18:** Movie Computing	**SESSION 19:** Japanese Software Engineering
Chairperson:	Norm Schneidewind, Naval Postgraduate School	Dana Seccombe, Hewlett-Packard	Robert Abbott, EDP Audit Controls	Nels Anderson, Computer Faire	Takeo Miura, Hitachi
1:30-3:00pm	**SESSION 20:** Personal Computer Local Networks	**SESSION 21:** VLSI and Software Engineering	**SESSION 22:** Languages, Compilers, and Architectures	**SESSION 23:** Reliable Computing: The State of the Art	**SESSION 24:** Japanese High Technology
Chairperson:	Harvey Freeman, Architecture Technology	Jock Rader, Hughes Aircraft	John Hennessy, Stanford University	Herb Hecht, SoHaR	Asao Ishizuka, Nikkei-McGraw Hill
3:30-5:00pm	**SPECIAL SESSION** "MCC (Microelectronics and Computer Technology Corporation): The Benefits of Cooperation"				

THURSDAY, March 3, 1983

8:30-10:00am	**SESSION 25:** CSNET: The Computer Science Network	**SESSION 26:** Technology of System Testing	**SESSION 27:** Multiprocessor Architectures	**SESSION 28:** Technology Transfer Considered Harmful?	**SESSION 29:** Experience with Ada
Chairperson:	David Farber, University of Delaware	Arthur V. Pohm, Iowa State University	James R. Goodman, University of Wisconsin	Dennis Allison, Stanford University	Paul Hilfinger, UC Berkeley
10:30am-noon	**SESSION 30:** Commercial Database Machines	**SESSION 31:** Practical Testing Techniques	**SESSION 32:** Integrated Voice and Text Mail	**SESSION 33:** High Tech Venture Capital: Reality and Myth	**SESSION 34:** Program Development Technology
Chairperson:	Jai Menon, IBM	Edward J. McCluskey, Stanford University	Theodore A. Laliotis, Hewlett-Packard	Michael Levy, Mindware	A. Nico Habermann, Carnegie-Mellon University
1:30-3:00pm	**SESSION 35:** Distributed Database Management	**SESSION 36:** New Developments in Testing	**SESSION 37:** Views of Data Flow	**SESSION 38:** Digital Communications on Commercial Cable	**SESSION 39:** Interactive Programming Environments I
Chairperson:	Umesh Dayal, Computer Corporation of America	Edward J. McCluskey, Stanford University	Robert Keller, University of Utah	G. W. Gates, Cox Cable Communications	Dave Robson, Xerox PARC
3:30-5:00pm	**SESSION 40:** Security and Integrity in Database Systems	**SESSION 41:** Implementations of Local Area Networks		**SESSION 42:** In-Plant Electronic Publishing	**SESSION 43:** Interactive Programming Environments II
Chairperson:	Paul Wilms, IBM	Charles Gopen, Intel		Robyn Shotwell, Arthur D. Little	Dave Robson, Xerox PARC

preliminary program

TUESDAY, March 1, 1983

9:30am OPENING CEREMONY

KEYNOTE ADDRESS: INTELLECTUAL LEVERAGE IN AN INFORMATION SOCIETY
Lynn Conway, Xerox PARC

"Computer scientists and engineers are pioneering a modern wave of exploration and discovery," Conway states. "The resulting surge of new technology has profoundly altered the economic and social landscape. But what we've seen so far is only the beginning. The pace of exploration is now being heightened by increased utilization of the information technology already created."

Afternoon 1:30–3:00pm

SESSION 1: PRACTICAL APPROACHES TO HIGHLY AVAILABLE SYSTEMS
Chairperson: J. Gray, Tandem Computers
EXPERIENCE WITH BANK OF AMERICA'S DISTRIBUTIVE COMPUTING SYSTEM — B. Good: Bank of America
A HIGHLY AVAILABLE DATA BASE SYSTEM — M. Schkolnick: IBM
AN APPROACH TO HIGH APPLICATION AVAILABILITY — S. Jones: Synapse Computer

SESSION 2: 'NEW WAVE' SUPER MINICOMPUTERS
Chairperson: D. Patterson, UC Berkeley
PERFORMANCE OF THE PYRAMID COMPUTER — R. Ragan-Kelley: Pyramid Technology
THE ELXSI SYSTEM 6400 — B. Kumar, R. Olson: Elxsi Computer
COMPUTER ARCHITECTURE — DESIGNING FOR SPEED — D. Folger: Ridge Computer

SESSION 3: DISABILITY REDUCTION THROUGH INTERACTIVE COMPUTATION
Chairperson: L. Leifer, Stanford University
AN EFFICIENT AND VERSATILE SPEECH PROSTHESIS — S. L. Wood, R. D. Steele: V. A. Medical Center
A GRAPHIC COMMUNICATION ENVIRONMENT FOR THE COGNITIVELY DISABLED — F. H. Lakin: V. A. Medical Center
INTERACTIVE ROBOTIC MANIPULATION FOR THE DISABLED — L. Leifer: Stanford University

SESSION 4: IMPLEMENTATION OF FACTORY INFORMATION SYSTEMS
Chairperson: H. G. West, Gelzer Systems
MANUFACTURING INFORMATION SYSTEMS: MOTIVATION AND METHODOLOGY — H. G. West: Gelzer Systems
TAB PRODUCTS: FROM SPREAD SHEETS TO M R P — B. Corbett: Tab Products

Afternoon 3:30–5:00pm

SESSION 5: FAULT-TOLERANCE/VERIFICATION OF NETWORKS
Chairperson: L. Lamport, SRI International
FAIL-STOP PROCESSORS — F. B. Schneider: Cornell University
SPECIFYING AND VERIFYING RELIABILITY AND FAULT-TOLERANCE PROPERTIES OF DISTRIBUTED SYSTEMS — P. M. Melliar-Smith, R. L. Schwartz: SRI International
BYZANTINE AGREEMENT — R. Strong, IBM; D. Dolev, Hebrew University

SESSION 6: ADVANCED ENGINEERING WORKSTATIONS
Chairperson: C. C. Lee, Metheus
WORKSTATIONS: EMERGING TRENDS IN COMPUTING ENVIRONMENT — V. Kholsa: Sun Microsystems
AN ADVANCED LIST-BASED ENGINEERING WORKSTATION — J. Kulp, D. Schwartz: Symbolics
SOFTWARE ENVIRONMENT FOR ADVANCED WORKSTATIONS — D. Stamm: Daisy
L750: A SINGLE USER GRAPHICS COMPUTING SYSTEM FOR VLSI SYSTEM DEVELOPMENT — D. Lowry, B. Roitbalt, P. Chen, B. Bruce: Metheus

SESSION 7: THE CHANGING ROLE OF MICROARCHITECTURE
Chairperson: Y. N. Patt, UC Berkeley
MICROARCHITECTURE AS MACHINE ARCHITECTURE — Y. N. Patt: UC Berkeley
MICROINSTRUCTIONS AS THE IMAGE ARCHITECTURE AND ITS IMPACT ON SOFTWARE METRICS — D. P. Agrawal, H. El Halabi: North Carolina State University
RELATION OF MICROCODE TO FUTURE MACHINE DESIGN — J. D. Wright: IBM
RISC AND CISC, TWO SOLUTIONS TO THE SAME PROBLEM — F. C. C. Osorio, Y. N. Patt: Digital Equipment Corporation
A PERSPECTIVE ON MICROCODE — M. Hopkins: IBM

SESSION 8: MUSIC, COMPOSITION, AND COMPUTERS
Chairperson: J. Strawn, Stanford University
AN INTERACTIVE VISUAL MODEL OF A RECORDING STUDIO CONSOLE — B. W. J. Pennycook, C. Banger: Queen's University
THE DIGITAL AUDIO PROCESSOR: THE NEXT STEP IN DIGITAL AUDIO — J. A. Moorer: Lucasfilm
MOCKINGBIRD: A COMPOSER'S AMANUENSIS — S. Ornstein: Xerox PARC

SESSION 9: EXPERT SYSTEMS
Chairperson: H. Brown, Stanford University
THE DRILLING ADVISOR: AN EXPERT SYSTEM APPLICATION — C. R. Hollander, Y. Iwasaki: Teknowledge
SIGNAL-TO-SYMBOL TRANSFORMATION: HASP/SIAP CASE STUDY — H. P. Nii: Stanford University
A VLSI DESIGN AUTOMATION ASSISTANT: THE FIRST STEPS — D. Thomas, T. Kowalski: Carnegie-Mellon University
DART: AN EXPERT DIAGNOSTICIAN FOR COMPUTER HARDWARE FAULTS — M. Genesereth: Stanford University

WEDNESDAY, March 2, 1983

Morning 8:30–10:00am

SESSION 10: DESIGN AND PERFORMANCE EVALUATION OF LOCAL NETWORKS
Chairperson: N. Schneidewind, Naval Postgraduate School
COMMUNITY MICROCOMPUTING: USER CENTERED NETWORKS OF PERSONAL COMPUTERS — H. Saal: Nestar Systems
SELECTION OF A LOCAL AREA NETWORK FOR THE CRONUS DISTRIBUTED OPERATING SYSTEM — K. Pogran: Bolt, Beranek & Newman
PERFORMANCE OF SOME LOCAL AREA NETWORK TECHNOLOGIES — A. Nadkarni, S. T. Chanson, A. Kumar: University of British Columbia

SESSION 11: EXPERIENCES IN VLSI SYSTEMS DESIGN
Chairperson: J. Rowsen, VLSI Technology
A REALLY REAL VLSI DESIGN EXPERIENCE — J. Halvorsen: Evans and Sutherland
PROCEDURAL DESIGN TOOLS, A USER'S PERSPECTIVE — J. Steinwedel, J. Donovan: Applied Technology
THE DESIGN OF AN ETHERNET DATA LINK CONTROLLER CHIP — E. Cheng

SESSION 12: OVERCOMING ENGINEERING CAREER ROADBLOCKS
Chairpersons: J. Werner, A. Barauck, H. E. Howell: IEEE PACE Committee
A QUICK CAREER/LIFE CHECKUP — D. B. Miller
Panelists: J. Andreson, Electronic Transformer Service; I. Feerst; D. Watson, Dataplan; P. Six, Frederiksen Engineering

SESSION 13: LOW COST NON-KEYBOARD INPUT DEVICES
Chairperson: G. White, Texticon
THE COMPUTER AS A BANDWIDTH DIODE — THE CHALLENGE AND PROMISE OF LOW-COST ALTERNATIVES TO THE KEYBOARD — D. D. Thornburg: Texticon
COMPUTER INPUT DEVICES FOR PHYSICALLY DISABLED INDIVIDUALS — M. R. Barker: Children's Hospital at Stanford
ON EVOLUTION OF CURSOR CONTROL DEVICES — S. Card: Xerox PARC
THE FATE AND FUTURE OF LOW-COST REAL-TIME SPEECH RECOGNITION — H. Enea

SESSION 14: FRENCH SOFTWARE TECHNOLOGY
Chairperson: J. C. Rault, Agence d'Informatique Etablissement Public National, France
SOL: A UNIX ENVIRONMENT IN PASCAL — M. Gien CNET/INRIA
THE CONCERTO SYSTEM — E. Andre: CNET
THE ALPAGE PROJECT — A SOFTWARE ENGINEERING ENVIRONMENT FOR LARGE SCALE PROJECTS — O. Roubine: CII—Honeywell Bull

Morning 10:30am–noon

SESSION 15: DESIGN EXPERIENCE WITH LOCAL NETWORKS
Chairperson: N. Schneidewind, Naval Postgraduate School
HIGH PERFORMANCE LOCAL AREA NETWORKS — G. S. Christensen: Network Systems
PERKIN ELMER'S PACKET NETWORK — DESIGN AND IMPLEMENTATION — E. P. Estes: Perkin-Elmer
FUNCTIONAL APPROACH TO THE DESIGN OF A LOCAL NETWORK: A NAVAL LOGISTICS SYSTEM EXAMPLE — N. Schneidewind: Naval Postgraduate School

SESSION 16: NEW CHIPS
Chairperson: D. Seccombe, Hewlett-Packard
A VERSATILE SUB-NANOSECOND MEMORY AND LOGIC ARRAY — S. C. Lee, T. Hickman: Motorola
ARCHITECTURE OF A VLSI MAP FOR BELLMAC-32 MICROPROCESSOR — P. Lu: Bell Labs
A 32-BIT VLSI SYSTEM — D. Seccombe, J. Beyers, L. Dohse, J. Fucetola, M. Kolesar, C. Lob, D. Maitland, A. Malhotra, J. Wheeler, E. Zeller: Hewlett-Packard

SESSION 17: COMPUTER ETHICS
Chairperson: R. Abbott, EDP Audit Controls
Panelists: To be announced

SESSION 18: MOVIE COMPUTING
Chairperson: N. Anderson, Computer Faire
COMPUTER GRAPHICS — R. Hollander: Robert Abel and Associates
COMPUTER GRAPHICS — A. R. Smith: Lucasfilm
BEYOND 'TRON' — K. Perlin: Magi

SESSION 19: JAPANESE SOFTWARE ENGINEERING
Chairperson: T. Miura, Hitachi Ltd.
SOFTWARE PRODUCTION MANAGEMENT USING GEM — S. Kudo: Fujitsu Laboratories
A METHOD OF REQUIREMENT ANALYSIS AND APPLICATION TO MAIL PROCESSING SYSTEM — T. Kono: Toshiba
HUMANIZED OUTPUT OF SYSTEM STRUCTURE GRAPHICS FROM SYSTEM DESIGN DESCRIPTIONS — K. Iwamoto: Nippon Electric
ICAS — AN INTEGRATED SOFTWARE ENGINEERING SYSTEM — T. Mitsumaki: Hitachi

Afternoon 1:30–3:00pm

SESSION 20: PERSONAL COMPUTER LOCAL NETWORKS
Chairperson: H. Freeman, Architecture Technology
LAYERED APPROACH TO LOCAL AREA NETWORK DESIGN — E. P. Stritter, S. Dillon, J. H. Malone: Nestar Systems
OMNINET AND ITS POSITION IN A HIERARCHICAL NETWORK — B. T. Eisenhard: Corvus Systems
ADAPTING PERSONAL COMPUTER SOFTWARE TO A LOCAL NETWORK — J. S. Haughdahl: Architecture Technology

SESSION 21: VLSI AND SOFTWARE ENGINEERING
Chairperson: J. Rader, Hughes Aircraft
OVERVIEW OF VLSI INTERSECTED WITH SOFTWARE ENGINEERING — M. Cutler: Aerospace Corporation
A COMPARISON OF SOFTWARE DESIGN STRATEGIES FOR SOFTWARE AND FOR VLSI — C. Smith, J. Dallen: Duke University
FORMAL VERIFICATION OF VLSI DESIGNS — R. Shostak: SRI International

SESSION 22: LANGUAGES, COMPILERS, AND ARCHITECTURES
Chairperson: J. Hennessy, Stanford University
BERKELEY FP — EXPERIENCES WITH A FUNCTIONAL PROGRAMMING LANGUAGE — S. B. Baden: UC Berkeley
CODE OPTIMIZATION TECHNIQUES FOR PIPELINED ARCHITECTURES — T. Gross: Stanford University
A LOCAL VARIABLE STORAGE MECHANISM — S. Wakefield: Stanford University

SESSION 23: RELIABLE COMPUTING: THE STATE OF THE ART
Chairperson: H. Hecht, SoHaR
FAULT-TOLERANT CONTROL SYSTEM FOR JET ENGINE TESTING — J. W. Cunningham, C. Bang: Sverdrup Technology
FAULT DETECTION WITHOUT TOTAL REPLICATION — J. J. Stiffler: Sequoia Systems
CONTINUOUS RECONFIGURATION: FAULT TOLERANCE WITHOUT A RIPPLE — R. Bartner: Wright-Patterson Aeronautical Labs

SESSION 24: JAPANESE HIGH TECHNOLOGY
Chairperson: A. Ishizuka, Nikkei-McGraw Hill
Panelists: K. Fuchi, Institute for New Generation Computer Technology; H. Kashiwagi, Electrotechnical Laboratory; M. Nagao, Kyoto University

Afternoon 3:30–5:00pm

SPECIAL SESSION: MCC (MICROELECTRONICS AND COMPUTER TECHNOLOGY CORPORATION): THE BENEFITS OF COOPERATION
The U.S. industry's response to heightened competition in semiconductor and computer technology.

THURSDAY, March 3, 1983

Morning 8:30–10:00am

SESSION 25: CSNET: THE COMPUTER SCIENCE NETWORK
Chairperson: D. Farber, University of Delaware
AN OVERVIEW OF THE COMPUTER SCIENCE NETWORK (CSNET) — R. Edminston: BBN
A TELEPHONE-BASED MESSAGE NETWORK — D. Farber: University of Delaware
THE CSNET NAME SERVER — L. H. Landweber, M. Solomon: University of Wisconsin - Madison
PUBLIC NETWORK INTERCONNECTION IN CSNET — T. Korb: Purdue University

SESSION 26: TECHNOLOGY OF SYSTEM TESTING
Chairperson: A. V. Pohm, IEEE-CS Computer Elements Committee
AN ANALYSIS OF TESTING REQUIREMENTS — A. V. Pohm: Iowa State University
TESTING ALL THE HARDWARE — J. T. Polhemus: Martin Marietta
TESTING SOFTWARE — E. Miller: Software Research Associates

SESSION 27: MULTIPROCESSOR ARCHITECTURES
Chairperson: J. R. Goodman, University of Wisconsin
PROTOCOLS FOR CONFIGURING COMPUTATION LOOPS ON A DISTRIBUTED MULTIPROCESSOR SYSTEM — W. Lin, C. Wu: University of Texas at Austin
PERFORMANCE ANALYSIS OF MULTIPROCESSING ARCHITECTURE — J. M. Taylor, M. Jaragh: New Mexico State University
CACHE IMPLEMENTATION FOR MULTIPLE MICROPROCESSORS — J. R. Goodman, C. V. Ravishankar: University of Wisconsin

SESSION 28: TECHNOLOGY TRANSFER CONSIDERED HARMFUL?
Chairperson: D. Allison, Stanford University
Panelists: To be announced

SESSION 29: EXPERIENCE WITH ADA
Chairperson: P. Hilfinger, UC Berkeley
WRITING AN ADA COMPILER IN ADA — G. Fisher: TeleSoft
THREE ADA EXAMPLES — W. Whitaker: USAF
PRODUCTIVITY ISSUES IN THE ADA LANGUAGE SYSTEM — W. Babich: SofTech

Morning 10:30am–noon

SESSION 30: COMMERCIAL DATABASE MACHINES
Chairperson: J. Menon, IBM
THE NOAH DATABASE MACHINE — C. L. Viet: HDR Systems
APPLICATIONS OF THE AMPERIF DATABASE MACHINE — S. Fuld: Amperif
THE INTEL DATABASE PROCESSOR — K. Morgan: Intel Systems
DESIGN AND IMPLEMENTATION OF AN INFORMATION QUERY COMPUTER — A. Sekino: Nippon Electric

SESSION 31: PRACTICAL TESTING TECHNIQUES
Chairperson: E. J. McCluskey, Stanford University
LSSD LATCH DESIGN — E. Eichelberger: IBM
DESIGN FOR TESTABILITY IN THE AMDAHL 580 — K. Wagner: Amdahl
CONCURRENT FUNCTIONAL TEST TECHNIQUE FOR STANDARD MICROPROCESSORS — S.F. Daniels: Siemens
SHIFTING AWAY FROM PROBES FOR WAFER TEST — J. Zasio: STC Computer Research

SESSION 32: INTEGRATING VOICE AND TEXT MAIL
Chairperson: T. A Laliotis, Hewlett-Packard
Panelists: D. Farber, University of Delaware; S. J. Boies, IBM; A. Rosenburg; R. Uhlig, BNR; N. Maxemchuk, Bell Labs

SESSION 33: HIGH-TECH VENTURE CAPITAL: REALITY AND MYTH
Chairperson: M. Levy, Mindware
Panelists: To be announced

SESSION 34: PROGRAM DEVELOPMENT TECHNOLOGY
Chairperson: A. N. Habermann, Carnegie-Mellon University
SYNED: A LANGUAGE-BASED EDITOR FOR C AND OTHER LANGUAGES — D. Swartwout: Bell Labs
CHECKING SEMANTICS WITH ATTRIBUTE GRAMMARS — T. Reps: INRIA
AN ENVIRONMENT FOR SYSTEM VERSION CONTROL — G. Kaiser: Carnegie-Mellon University

Afternoon 1:30–3:00pm

SESSION 35: DISTRIBUTED DATABASE MANAGEMENT
Chairperson: U. Dayal, Computer Corporation of America
DDM: AN ADA-COMPATIBLE DISTRIBUTED DATABASE MANAGER — A. Chan, U. Dayal, S. Fox, N. Goodman, D. Ries, D. Skeen: Computer Corporation of America
A METHODOLOGY FOR THE DESIGN OF DISTRIBUTED DATABASES — S. Ceri, Politecnico di Milano; S. Navathe, University of Florida
DESIGNING A DATABASE MANAGEMENT SYSTEM FOR DISTRIBUTED REAL-TIME ENGINEERING APPLICATIONS — S. Purkayastha, G. Kar, E. Berelian, P. Wong, R. Casey, L. Farmer, P. Lo, D. Chen: ITT

SESSION 36: NEW DEVELOPMENTS IN TESTING
Chairperson: E. J. McCluskey, Stanford University
PARALLEL SIGNATURE ANALYZERS — DETECTION CAPABILITY AND EXTENSIONS — S. Z. Hassan: Stanford University
A HIGH SPEED LOGIC SIMULATION MACHINE — N. Koike, K. Ohmori, H. Kondo, T. Sasaki: Nippon Electric
SELF-TESTING EMBEDDED CODE CHECKERS — J. Khakbaz, E. J. McCluskey: Stanford University

SESSION 37: VIEWS OF DATA FLOW
Chairperson: R. Keller, University of Utah
EFFICIENT HIGH SPEED IMPLEMENTATION OF DIRECTED GRAPH SIGNAL PROCESSING IN A DISTRIBUTED PROCESSING SYSTEM — G. R. Linsemayer, J. Cuadrado: Westinghouse Electric
MODULAR DATA FLOW IMAGE PROCESSOR — M. Iwashita, T. Temma, K. Matsumoto, H. Kurokawa: Nippon Electric
MASTER-SLAVE MIXED ARRAYS FOR DATA-FLOW COMPUTATIONS — P. D. Fisher, T. L. Chang: Michigan State University

SESSION 38: DIGITAL COMMUNICATIONS ON COMMERCIAL CABLE
Chairperson: G. W. Gates, Cox Cable Communications
CABLE TV ENCOUNTERS COMPUTER — A. S. Taylor: Malarkey-Taylor & Associates
METROPOLITAN AREA NETWORK STANDARDS - IEEE 802 — C. K. Cheung: Satellite Business Systems
COMMUNICOM — DESIGNING FOR THE CATV ENVIRONMENT — A. J. Aukstikalnis: General Instrument

SESSION 39: INTERACTIVE PROGRAMMING ENVIROMENTS I
Chairperson: D. Robson, Xerox PARC
THE INTERLISP-D SYSTEM — B. Sheil, Xerox PARC
THE SMALLTALK-80 SYSTEM — P. Deutsch: Xerox PARC
THE CEDAR SYSTEM — E. Schmidt: Xerox PARC

Afternoon 3:30–5:00pm

SESSION 40: SECURITY AND INTEGRITY IN DATABASE SYSTEMS
Chairperson: P. Wilms, IBM
THE DESIGN OF SECURE DISTRIBUTED SYSTEMS — D. Martella, D. Bussolati — Instituto Electronica Polytechnico, Italy
AUTHORIZATION SYSTEMS WITH GRANTOR-CONTROLLED PROPAGATION OF PRIVILEGES — E. Leiss: University of Houston
LONG LIVED TRANSACTIONS: ARE THEY A PROBLEM OR NOT? — D. Badal: Naval Postgraduate School

SESSION 41: IMPLEMENTATIONS OF LOCAL AREA NETWORKS
Chairperson: C. Gopen, Intel
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SESSION 43: INTERACTIVE PROGRAMMING ENVIRONMENTS II
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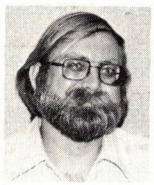

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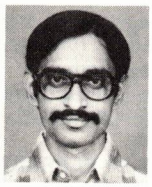

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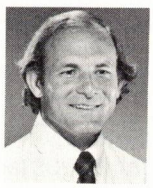

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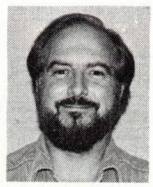

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