

Preface

WEDNESDAY, July 14

8:30 a.m. to 9:00 a.m. (Annenberg Center, Zellerbach Theatre)

Welcoming Talk and Opening Remarks

9:00 a.m. to 10:30 a.m. (Annenberg Center, Zellerbach Theatre)

GENERAL SESSION 1

Session Chairman: Udo W. Pooch (Texas A&M University)

Papers:

- TYPER-An Editor for the On-Line Composition of Text,
by R. P. Sonderegger, Jr. (Data General Corporation)
- Sequential/Parallel Matrix Picture Languages (Abstract), 7
by P. Wang and W. Grosky (Georgia Institute of Technology)
- An Interactive Computer Graphics Approach for Dissecting a Mixture of Normal (or lognormal) Distributions, 8
by R. B. McCammon (US Dept. of the Interior, Geological Survey)

10:45 a.m. to 12:00 p.m. (Annenberg Center, Zellerbach Theatre)

GENERAL SESSION 2

Session Chairman: H. A. Kame1 (University of Arizona)

Papers:

- Intermixing Refresh and Direct View Storage Graphics, 13
by Med Thanhouser (Tektronix)
- Computer Generated Sterograms, 19
by D. Verne Morland (GE)
- A User-Oriented Computer Graphics System, 25
by U. W. Pooch (Texas A&M University)
- A Film Presentation of an Interactive System for 3D Data Generation,
by R. Parent (Ohio State University)

12:00 p.m. to 12:15 p.m. (Annenberg Center, Zellerbach Theatre)

Welcome to the University of Pennsylvania and the Wharton School
by Dean Donald C. Carroll

1:30 p.m. to 3:00 p.m. (Annenberg Auditorium)

ANIMATION I

Session Chairman: C. Csuri (Ohio State University)

Papers:

- A Conversational Extensible System for the Animation of Shaded Images, 32
by R. M. Baecker (University of Toronto)
- Experiments with Computer Animation, 40
by N. Negroponte and Paul Pangaro (MIT)
- A Digital Video Information and Storage Retrieval System, 45
by A. Myers (Ohio State University)

1:30 p.m. to 3:00 p.m. (Chemistry, Room 102)

RELATIONSHIP BETWEEN GRAPHICS AND IMAGE PROCESSING -- PANEL

Session Chairman: A. Rosenfeld (University of Maryland)

Panel Members:

- W. Newman (University of California at Irvine)
- H. Freeman (Rensselaer Polytechnic Institute)
- A. van Dam (Brown University)

3:15 p.m. to 4:45 p.m. (Annenberg Auditorium)

ANIMATION II

Session Chairman: C. Csuri (Ohio State University)

Papers:

- Stick Figure Skeleton Techniques for Enhancing Motion Dynamics in Key Frame Animation (Abstract), 46
by N. Burtnyk and M. Wein (National Research Council Canada)
- Interacting with the GALATEA Film Analysis System, 47
by M. J. Potel and R. E. Sayre (University of Chicago)
- A Graphics Editor for Labanotation, 60
by M. Brown and S. W. Smoliar (University of Pennsylvania)
- A Short film on Schemes for Interactive Curve Design, 66
by R. Riesenfeld (University of Utah)

3:15 p.m. to 4:45 p.m. (Chemistry, Room 102)

MAN-MACHINE INTERACTION PANEL

Session Chairman: C. Meadow (Drexel University)

Panel Members:

N. Negroponte (MIT)

A. Hereford (AAI-Auerbach Assoc.)

Ira Cotton (NBS)

Bob Dunn (US Army Electronics Command)

7:00 p.m. to 9:00 p.m. (Annenberg Auditorium)

FILM MAKING

Session Chairman: Rick Speer (Evergreen State College), J. Ellis (Washington University)

THURSDAY, July 15

9:00 a.m. to 10:30 a.m. (Fine Arts, B-1)

HARDWARE

Session Chairman: J. Staudhammer (North Carolina State University)

Papers:

A Summary of Graphics Terminal Requirements Derived from Application Studies (Abstract), 67

by E. D. Carlson (IBM)

The HRD-1 Laser Display System, 68

by P. A. Woodsford (Laser-Scan Laboratories Ltd., England)

Slide presentation on a full color display and simple real-time animation,

by E. R. Tripp (North Carolina State University)

9:00 a.m. to 10:30 a.m. (Annenberg Auditorium)

APPLICATIONS TO ARCHITECTURE AND CIVIL ENGINEERING

Session Chairman: J. Wilson (University of Pennsylvania)

Papers:

Architecture-by-Yourself, 74

by G. Weinzapfel and N. Negroponte (MIT)

Automated Drafting Systems - An Effective Person-Machine Interface, 79

by Carl Machover (Machover Associates Corp.)

Interactive Simulation of Network Pumping Policies on a Computer-Based Graphics System, 82

by P. F. Perry and J. D. Keenan (University of Pennsylvania)

Interactive Computer Graphics for Computer Aided Design in Civil Engineering, 89

by J. L. Wilson (University of Pennsylvania) and C. R. Lansberry (Sun Ship Building Co.)

10:45 a.m. to 12:00 p.m. (Fine Arts, B-1)

INPUT/OUTPUT DEVICES

Session Chairman: Howard Moraff (New York Vet College)

Papers:

- Graphical Input Through Machine Recognition of Sketches, 97
by C. F. Herot (MIT)
- Recognition of 3D Objects from Orthographic Views, 103
by G. Lafue (Carnegie Mellon)
- Controlling User Interaction, 109
by D. J. Kasik (Battelle Columbus Laboratories)
- A Computer-Terminal, Hardware/Software System with Enhanced User Input Capabilities:
The Enhanced-Input Terminal System (EITS) 116
by R. Kaplow and M. Molnar (MIT)

10:45 a.m. to 12:00 p.m. (Annenberg Auditorium)

SOCIAL GRAPHICS

Session Chairman: D. Tunstall (Bureau of Social Sciences)

Papers:

- Computer Graphic Technology and Its use at the Census Bureau, *
- by L. Cornish (Census Bureau, Dept. of Commerce)
- Graphics for Social Scientists, 125
by E. J. Schneider (University of Michigan)

1:30 p.m. to 3:00 p.m. (Fine Arts, B-1)

PROGRAMMING LANGUAGES I

Session Chairman: T. Lucido (Ohio State University)

Papers:

- Specifying Symbol Instances (Abstract), 132
by J. Foley (University of North Carolina)
- BGRAF 2: A Real-Time Graphics Language with Modular Objects and Implicit Dynamics, 133
by S. Bergman and A. Kaufman (Ben Gurion University of the Negev)
- DALI - A High Level Language Extension for Dynamic Computer Graphics, *
by G. Pfister (University of California at Berkeley)

* Indicates that the paper was not available at the time of publication, but will be included in a later issue of Computer Graphics.

1:30 p.m. to 3:00 p.m. (Annenberg Auditorium)

SATELLITE GRAPHICS I

Session Chairman: J. Foley (University of North Carolina)

Papers:

- A Developmental System for Microcomputer Based Intelligent Graphics Terminals, 137
by R. Kellner and L. Maas (Los Alamos Labs)
- A Mobile Remote Data Collection and Graphics Display Station, 143
by J. G. Miles (California State University at Sacramento)
- Animation on a Satellite Graphics System, 149
by R. Sower (Air Force Institute of Technology)

1:30 p.m. to 3:00 p.m. (Towne School, Alumni Hall)

CARTOGRAPHY I

Session Chairman: H. Moellering (Ohio State University)

Papers:

- A System for Interactive Acquisition and Administration of Geometric Data for Thematic Map Production, 154
by K. Tuerke (Bundesforschungsanstalt für Landeskunde und Raumordnung, Germany)
- Application of the Intercolor 8000 CRT to Thematic Cartography, 163
by J. Carter and D. Icove (University of Tennessee)
- Geographic Data Structures: Alternatives for Geographic Information Systems, 167
by K. Dueker (University of Iowa)

3:15 p.m. to 5:00 p.m. (Fine Arts, B-1)

PROGRAMMING LANGUAGES II

Session Chairman: T. Lucido (Ohio State University)

Papers:

- On the Semantics of the Assignment Statement of High Level Graphical Languages, 173
by G. F. Schrack (University of British Columbia)
- Enhanced Graphics Performance with User Controlled Segment Files, 179
by R. Williams (IBM Research San Jose) and W. D. Little (University of Waterloo)
- Graphic and Relational Data Base Support for Problem Solving, 183
by D. Weller and R. Williams (IBM Research San Jose)

3:15 p.m. to 5:00 p.m. (Annenberg Auditorium)

SATELLITE GRAPHICS II

Session Chairman: J. Foley (University of North Carolina)

Papers:

- Experience with Distributed Processing on a Host/Satellite Graphics System, 190
by J. Michel and A. van Dam (Brown University)
- Configurable Applications for Satellite Graphics, 196
by G. Hamlin, Jr. (NASA Langley Research Center)
- Remote Programmability of Graphic Interactions in a Host/Satellite Configuration, 204
by S. Moulton and P. Corman (DEC)
- Affordability of Computer Graphics for Planning Networks in DOD Program Management, 212
by J. Potoczniak, M. Kosmin, B. Larkin, J. Callahan, and R. Dunn (US Army
Electronics Command)

3:15 p.m. to 5:00 p.m. (Towne School, Alumni Hall)

CARTOGRAPHY II

Session Chairman: H. Moellering (Ohio State University)

Papers:

- Geographic Data Bank, *
- by E. Correa and H. Torres del Paral (C.E.T.E.N.A.L., Mexico)
- Automated Contouring of Vertical Oceanographic Sections Using an Objective Analysis, 218
by A. Herman (NOAA)
- A Presentation on "Editing of Digital Data in the Automated Cartography System at the
US Army Engineer Topographic Laboratories,"
- by Wesley H. Shepherd (US Army Engineer Topographic Laboratories)

FRIDAY, July 16

9:00 a.m. to 10:30 a.m. (Fine Arts, B-1)

DEVICE INDEPENDENT GRAPHICS

Session Chairman: Tom Wright (NCAR)

Papers:

- SGP - A Simple Graphics Package, 224
by R. E. Putnam and R. Carmichael (NASA, Ames Research Center)

* Indicates that the paper was not available at the time of publication, but will be included in a later issue of Computer Graphics.

The Internal Design of the IG Routines - An Interactive Graphics System for a Large Time Sharing Environment,	229
by J. F. Blinn (University of Utah) and A. C. Goodrich (University of Michigan)	
The Design of a Low Cost Video Graphics Terminal,	235
by F. Baskett and L. Shustek (Stanford University)	

9:00 a.m. to 10:30 p.m. (Annenberg Auditorium)

BIOMEDICAL/MEDICAL APPLICATIONS

Session Chairman: Lou Katz (Columbia University)

Papers:

Computer Rendering of Lobster Neurons,	241
by N. Max (Case Western Reserve University)	
Quantitative Imaging of Dynamic Structure and Function of the Heart, Lungs and Circulation by Computerized Reconstruction and Subtraction Techniques,	246
by R. A. Robb, E. L. Ritman, J. F. Greenleaf, R. E. Sturm, G. T. Herman, P. A. Chevalier, H. K. Liu and E. H. Wood (Mayo Graduate School of Medicine)	
Characteristics of Neuroscience Computer Graphics Displays and a Proposed System to Generate Those Displays,	257
by J. Capowski (University of North Carolina)	

10:45 a.m. to 12:00 p.m. (Fine Arts, B-1)

SURFACE REPRESENTATION

Session Chairman: J. Posdamer (Syracuse University)

Papers:

A Parametric Algorithm for Drawing Pictures of Solid Objects Bounded by Quadric Surfaces (Abstract),	262
by J. Z. Levin (New York University)	
A Method for Plotting Curves Defined by Implicit Equations,	263
by E. Cohen (Applicon Inc.)	
Texture and Reflections in Computer Generated Images (Abstract),	266
by James Blinn and M. E. Newell (University of Utah)	
Hierarchical Geometric Models for Visible Surface Algorithms (Abstract),	267
by J. Clark (University of California at Santa Cruz)	

10:45 a.m. to 12:00 a.m. (Annenberg Auditorium)

LARGE SYSTEMS

Session Chairman: J. Jarvis (Bell Telephone Laboratories)

Papers:

- ARTES, An Interactive Highway Design Program, 268
by M. Gonin (SETRA EDP Div., France) and T. Moffett (T. J. Moffett Consulting)
- Computer-Aided Integrated Circuit Design - A Distributed Integrated Approach, 275
by E. Kozemchak (Bell Laboratories)
- Making Graphics Work, 279
by J. J. Lavick (McDonald Douglas Automation)
- A Film entitled "Three-Dimensional Man-Machine Interaction" 287
by J. H. Clark (University of California at Santa Cruz)

1:30 p.m. to 3:00 p.m. (Annenberg Auditorium)

CAD: Computer Aided Design

Session Chairman: D. Loendorf (NASA Langley Research Center)

Papers:

- The Line Drawing Editor, An Experiment in Computer Vision, 288
by J. Jarvis (Bell Laboratories)
- PRIMS: An Interactive System for the Design of Hybrid Circuit Layout, 293
by F. Hadlock (Florida Atlantic University)
- Computer Aided Coarse Grid Layout Technique for Photomasks, 302
by R. Geer (TRW Systems)