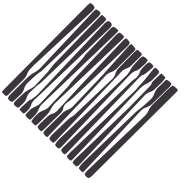
ACM SIGGRAPH VIDEO REVIEW



ISSUE 74

SIGGRAPH '91
Computer Graphics Screening Room
part 2 of 2

Table of Contents

15. **Computer Home** - *B.S.C.A.*
16. **Rose from the Dead** - *Design EFX with Biomechanics*
17. **Venus & Milo** - *Cox, NCSA*
18. **Garbage** - *Cox, NCSA*
19. **Cronicas Urbanas** - *TVE*
20. **Numerical Simulation of the Flow through the Penn State Artificial Heart** - *NASA Ames Research Center*
21. **A Molecular Dynamics Simulation of Atomic Force Microscope** - *Landel, Advanced Scientific Visualization Lab.*
22. **Subsurface Geology of a Soviet Nuclear Test Site** - *United States Geological Survey*
23. **El Nino Satellite Observations and Downburst Simulation** - *Hibbard, Paul, University of Wisconsin-Madison*
24. **Robotics in Space** - *Carnahan and Bacon, Advanced Technology and Research Corporation*
25. **EVA Development Flight Experiment - STS 37** - *NASA*
26. **R. Aquarii** - *Berry, Space Telescope Science Institute*
27. **Using Sound to Extract Meaning from Complex Data** - *NCSA*
28. **Visibility Analysis Through the Animation of a Backhoe Work Cycle** - *NCSA*
29. **The House That Radiosity Built: An Introduction to the Radiosity Method** - *Baum and Smith, SGI*
30. **Unfortunate Kid** - *Hayashida, LINKS Corporation*
31. **Still Walking** - *Thalmann and Thalmann*
32. **Realistic Rendering of Lace - Victoria's Dress Shop** - *Becket, Vigliotti and Badler, Univ. of Pennsylvania*

Most of the pieces in this SIGGRAPH Video Review are copyrighted. Therefore, they are not to be duplicated, broadcast, photographed or edited without express permission of the individual copyright holder.

ACM SIGGRAPH
Video Review
Issue 74

SIGGRAPH '91
Computer Graphics
Screening Room
part 1 of 2

15. Computer Home

Time: 5:50

Contact:
Pierre Buffin
76 rue Joseph de Maistre
75018 Paris
FRANCE
33 1 4228 7535

Summary:
Once upon a time, three bugs in a computer...

Produced by:
B.S.C.A.

Hardware:
PC 386 and Transputers

Software:
Original software developed by BSCA

16. Rose from the Dead

Time: 1:39

Contact:
Tom Baker
Design EFX
535 Plasamour Drive
Atlanta, GA 30324
USA
1 404 876 7149
1 404 876 8956 fax

For information regarding the purchase of SIGGRAPH Video Review tapes, contact:

SIGGRAPH Video Review
c/o 1st Priority
P.O. Box 576
Itasca, Illinois 60143-0576

Within USA: 800-523-5503
Outside USA: 708-250-0807
FAX: 708-250-0038

Summary:
Human motion is captured into the computer and applied to computer models.

Produced by:
Design EFX in conjunciton with Biomechanics

Hardware:
Silicon Graphics

Software:
Wavefront, Alias, custom software

17. Venus & Milo

Time: 4:13

Contact:
Donna Cox
NCSA
4051 Beckman Institute
405 N. Mathews Ave.
Urbana, IL 61801
USA
1 217 244 2005
1 217 244 2909 fax

Summary:
Night janitor has an encounter with a data driven mathematical homotopy called Venus.

Produced by:
Donna J. Cox

Hardware:
Silicon Graphics Systems

Software:
Wavefront; NCSA Visualization Group, Homegrown

18. Garbage

Time: 1:30

Contact:
Donna Cox
NCSA
4051 Beckman Institute
405 N. Mathews Ave.
Urbana, IL 61801
USA
1 217 244 2005
1 217 244 2909 fax

Summary:
An environmental statement about the impending landfill crisis in the U.S.

Produced by:
Donna J. Cox

Hardware:
Silicon Graphics System

Software:
Wavefront, NCSA Visualization Group, Homegrown

19. Cronicas Urbanas

Time: 1:14

Contact:
Ignacio Sanz-Pastor
Anita Vindel, 10
28023 Madrid
SPAIN
34 1 357 2751 or
34 1 357 2752
34 1 307 0339 fax

Summary:
TV program credits.

Produced by:
TVE

Credits:
Realization: Victor Borrego Nadal; Animation: Ignacio Sanz-Pastor Revorio, Victor Borrego Nadal

Hardware:
Silicon Graphics workstation, PC based render station, Abekas A60 Digital DISK recorder, Sharp color scanner, MIDI equipment

Software:
TDI Explore, ATT Topas, TIPS and Nefertiti Paintbox and custom software, Notator Music software; soundtrack composed with MIDI interface equipment

20. Numerical Simulation of the Flow through the Penn State Artificial Heart

Time: 3:12

Contact:
Vee Collet
NASA Ames Research Ctr.
Mail Stop 258-2
Moffett Field, CA 94035
USA
1 415 604 4450
1 415 604 4377 fax

Summary:
Visualized with particles and total traces. Sound tones are used to represent pressure and specific vorticity values reached by the blood cells

Produced by:
Workstation Applications Office, NASA Ames Research Center

Hardware:
Cray YMP, Silicon Graphics IRIS 4D/320VGX, Abekas Digital Disk Recorder

Software:
FAST (Flow Anaylsis Software Toolkit)

21. A Molecular Dynamics Simulation of Atomic Force Microscope

Time: 3:40

Contact:
Kevin Landel
San Diego Supercomputer Center
PO Box 85608
San Diego, CA 92186
USA
1 619 534 5000
1 619 534 5152 fax

Summary:
Problems with atomic force microscope are illustrated. Simulations of resultant microscope images are shown alongside various probe/molecule configurations.

Produced by:
Kevin L. Landel, Advanced Scientific Visualization Laboratory

Hardware:
Silicon Graphics IRIS 4D/210 GTX, Cray YMP 8/864

Software:
Proprietary UCSD

22. Subsurface Geology of a Soviet Nuclear Test Site

Time: 1:56

Contact:
Gregory Coats
U.S. Geological Survey
586 National Center
12201 Sunrise Valley Drive,
Room 2-D-315
Reston, VA 22092
USA
1 703 648 4540
1 703 648 5585 fax

Summary:
Presents data on the three dimensional locaiton, size and geologic environment of underground nuclear explotions at a Soviet nuclear test site, based on published data and analysis of commercial satellite images.

Produced by:
United States Geological Survey

Hardware:
Sun Workstations, Pixar Image Computer, Abekas A60 digital disk recorder, Sony BVW-75 Betacam SP

Software:
Pixar's Chap Reyes, Chap Terrains, and Chap Image Processing

23. El Nino Satellite Observations and Downburst Simulation

Time: 2:00

Contact:
Bill Hibbard
Univ. of Wisconsin-Madison
SSEC
1225 W. Dayton Street
Madison, WI 53706
USA
1 608 263 4427
1 608 263 6738 fax

Summary:
Real time visualization of low and high altitude temperature anomalies based on satellite observations, showing the1983 El Nino event; and of a downburst simulation, showing turbulent regions and a temperature cross section.

Produced by:
Bill Hibbard, Brian Paul

Hardware:
Stardent GS-2000

Software:
Climate Explorer, VIS-50

24. Robotics in Space

Time: 3:03

Contact:
Gregory Bacon
Advanced Technology and Research Corporation
19400 Sweitzer Lane,
Code 330
Laurel, MD 20707 USA
1 301 498 8200
1 301 953 2848 fax

Summary:
Robotic analysis/simulation performed for NASA Goddard Space Flight Center in support of the Flight Telerobotic Servicer program.

Produced by:
Timothy "Hawk" Carnahan, co-produced by Gregory T. Bacon

Hardware:
SGI 4D series IRIS workstation

Software:
Wavefront - Advanced Visualizer/ Deneb Robotics Incorp. - IGRIP

25. EVA Development Flight Experiment - STS 37

Time: 4:12

Contact:
Sharon Poi Goza
NASA - Johnson Space Ctr.
ER4
Houston, TX 77058 USA
1 713 483 8451
1 713 483 7580 fax

Summary:
A series of experiments conducted to evaluate equipment and techniques for the assembly of Space Station Freedom.

Produced by:
NASA - Johnson Space Center
IGOAL

Hardware:
Silicon Graphics 210 VGX

Software:
Object Orientation Manipulator, Solid Surface Modeler; software developed at NASA-JSC IGOAL

26. R. Aquarii

Time: 1:15

Contact:
Dana Berry
Space Telescope Sci. Instit.
3700 San Martin Drive
Baltimore, MD 21218
USA
1 301 338 4875
1 301 338 4579 fax

Summary:
Hubble Space Telescope image of R. Aquarii, followed by an animation of the binary star as it undergoes a nova explosion.

Produced by:
Dana Berry

Hardware:
SGI IRIS 3130 and 4D

Software:
Alias Software

27. Using Sound to Extract Meaning from Complex Data

Time: 9:13

Contact:
Deanna Walker
NCSA - University of Illinois at Urbana-Champaign
605 E. Springfield Avenue
Champaign, IL 61820
USA
1 217 244 1996
1 217 244 1987 fax

Summary:
Demonstrates the use of sound to aid in interpreting data through scientific visualization.

Produced by:
NCSA Visualization Group and CERL Sound Group

Hardware:
Symbolic Sound Capybara, Apple Macintosh, SGI 240GTX, SGI 4020, Abekas A64, BTS D1

Software:
KYMA, Wavefront Technologies and various in-house software

28. Visibility Analysis Through the Animation of a Backhoe Work Cycle

Time: 3:10

Contact:
Deanna Walker
152 Computing Applications Bldg.
605 E. Springfield Avenue
Champaign, IL 61820
USA
1 217 244 1996
1 217 244 1987 fax

Summary:
Operator visibility from a cab is analyzed by animating a backhoe in a virtual proving ground.

Produced by:
The Visualization Group, NCSA

Hardware:
SGI 240GTX, SGI 4020, Abekas A64, BTS D1

Software:
Wavefront Technologies and various in-house software

29. The House That Radiosity Built: An Introduction to the Radiosity Method

Time: 3:25

Contact:
Daniel Baum
Silicon Graphics
2011 N. Shoreline Blvd.
M57U-550
Mountain View,
CA 94039-7311
USA
1 415 962 3671
1 415 965 7651 fax

Summary:
An introductory tutorial on the radiosity method. State-of-the-art environment preprocessing and radiosity solution algorithms were used to generate the video.

Produced by:
Daniel R. Baum and Kevin P. Smith, Silicon Graphics

Hardware:
SGI IRIS 4D 340 VGX

Software:
In-house radiosity and viewing software

30. Unfortunate Kid

Time: 1:00

Contact:
Masaaki Taira
LINKS Corporation
3-13-6 Higashi-Shinagawa
Shinagawa-ku
Tokyo 140
JAPAN
81 3 3450 8181
81 3 3471 2607 fax

Summary:
I tried to represent the details and expression of a man's face and come near to real one.

Produced by:
Hiroyuki Hayashida, LINKS Corporation

Hardware:
LINKS-2 (original custom made), Sun 4/280, SGI IRIS-4D, Sony NWS-3860

Software:
Original

31. Still Walking

Time: 1:00

Contact:
Daniel Thalmann
Computer Graphics Lab
Swiss Federal Institute of Technology
CH-1015 Lausanne
SWITZERLAND
41 21 693 5214
41 21 693 3909 fax

Summary:
Behavioral walking model.

Produced by:
Nadia Magnenat Thalmann and Daniel Thalmann

Hardware:
Silicon Graphics IRIS 240 VGX

Software:
Human Factory, Walk Model, Rayshade

32. Realistic Rendering of Lace - Victoria's Dress Shop

Time: 0:34

Contact:
Dr. Norman I. Badler
University of Pennsylvania/
CIS Dept.
200 South 33rd Street
Philadelphia,
PA 19104-6389
USA
1 215 898 5862

Summary:
A new technique for realistic rendering of lace using raytracing.

Produced by:
Welton Becket and Dawn Vigliotti

Hardware:
Silicon Graphics IRIS

Software:
Rtrace: W. Becket; Jack: C. Phillips; Cloth Model: E. Koh

(End of Issue 74)

Additional Issues:

ACM SIGGRAPH VIDEO
"HDTV & The Quest for Virtual Reality"
ISSUE 60

The broadcast world is about to collide with the computer graphics world. Think of this as your survival manual. This two-tape video report, including transcript and reference documentation, will give you an up-to-the-minute overview of the standards, hardware and controversies that are as rooted in geopolitical and philosophical differences as they are technological.

For information regarding the purchase of SIGGRAPH Video Review tapes, contact:

SIGGRAPH Video Review
c/o 1st Priority
P.O. Box 576
Itasca, Illinois 60143-0576

Within USA: 800-523-5503
Outside USA: 708-250-0807
FAX: 708-250-0038

Visualization Theater at Supercomputing '90 plus additional collected pieces ISSUE 61

1. *The Politics of Pleasure - Meyers, UIC*
2. *Splash Dance - Kass, Apple Computer, Inc.*
3. *1990 CFD Highlights - Gong, NASA Ames Research Center*
4. *Visualizing Fermat's Last Theorem - Hanson, Indiana University*
5. *Numerical Simulations of Cosmic Jets - Elvins, SDSC*
6. *The Formation of the Solar System - Nadeau, SDSC*
7. *Sierpinski Blows His Gasket - Hart, UIC*
8. *PSC 1990 Sampler - Welling, PSC*
9. *Lively IFS - Lescinsky, UIC*
10. *Cold Front Moving Across the North Atlantic - Hibbard, Univ. of Wisc.*
11. *ANL's Scientific Visualization Promo Tape - Dech, ANL*
12. *Ductile Flow - Reynolds, Symbolics, Inc.*
13. *Electron Densities of the AZT Molecule - Dech & O'Donnell, UIC*
14. *Forest Fire Simulation - Gardner, Grumman Data Systems*
15. *Landscape Dynamics of Yellowstone Park - Walker, NCSA*
16. *Computational Quantum Chemistry in Catalysis Research - Walker, NCSA*

Visualization Theater at Supercomputing '90 plus additional collected pieces ISSUE 62

17. *Smog: Visualizing the Components - Walker, NCSA*
18. *More Bells and Whistles - Lytle, Cornell National Supercomputer Facility*
19. *Artificial Reality at UNC-Chapel Hill - Robinett, UNC at Chapel Hill*
20. *A Sequence from the Evolution of Form Latham, IBM UK Scientific Centre*
21. *Mathematics! Similarity and The Story of π - Corrigan, CalTech*
22. *A Volume of 2-D Julia Sets - Sandin, UIC*
23. *Panspermia - Sims, Thinking Machines Corp.*
24. *The Process of Wound Healing - Bister, Atelier Bister Animation*
25. *Flight Over Mandelbrot Set - Jürgens, University of Bremen*
26. *Neptune Encounter - Hall, Jet Propulsion Laboratory*
27. *Invertebrate Models - Clark, Florida Instit. of Technology*
28. *Sun Scientific Visualization - McMillan, Sun Microsystems, Inc.*
29. *Graftals - Rawlings, UIC*