

L'Anniversaire/Anniversary

Contact:

Doris Kochanek
Centre d'Animatique, P-36
National Film Board of Canada
P.O. Box 6100, Station A
Montreal, Québec
CANADA H3C 3H5
514-283-9309

Summary: In the midst of frantic preparations for a party, three characters discover to their horror that they have done something unpardonable. Will they be able to restore order in time for the festivities? Produced in celebration of the 50th anniversary of the National Film Board of Canada.

The Conquest of Form

Contact:

William Latham
IBM UKSC
St. Clement Street
Winchester Hampshire SO23 9DR
UNITED KINGDOM
0962-844-191

Summary: A computer art film made using constructive solid geometry (CSG) combined with 3D texturing, lighting, and surface qualities. Shows the creation of complex structures.

Produced by: William Latham, IBM UKSC

Credits: Artist: William Latham; **Software:** Peter Quarendon, Stephen Todd; **Production Assistant:** Richard Wilkes

Hardware: IBM 3081, IBM 5080 Display

Software: ESME + WINSOM Software

Don't Touch Me

Contact:

Jeff Kleiser
6105 Mulholland Hwy.
Hollywood, CA 90068 USA
213-467-3563

Summary: "Gai'a's dying, can't you see? While you are wasting time on me." -- DOZO

Produced by: Kleiser-Walczak Construction Company

Credits: Produced and directed by: Jeff Kleiser and Diana Walczak; **Hardware provided by:** Hewlett-Packard Company; **Software provided by:** Wavefront Technologies; **Human motion software:** Frank Vitz; **Body flexing software:** DeGral-Wahrman; **Body flexing software consultants:** Jim Halebian and Bruce Racks; **Human motion acquisition:** Motion Analysis, Inc.

Produced by: Centre d'Animatique, National Film Board of Canada

Credits: Directors/Animators: Marc Aubry, Michel Hébert; **Fireworks:** Doris Kochanek, **Computer graphics team:** Ines Hardtke, Terry Higgins, Doris Kochanek, Dave Martindale; **Producer:** Robert Forget; **Additional rendering resources:** CAE Electronics Ltd., Wavefront Technologies Inc.

Hardware: Silicon Graphics 2400T, 4D/70, and Power Series workstations; Celco CFR-8000 film recorder

Software: Wavefront Technologies Inc. and various custom packages developed in house

Continuum 1. Initiation

Contact:

Dean Winkler
Post Perfect
220 East 42nd Street
New York, NY 10017 USA
212-972-3400
Maureen Nappi Inc.
229 W. 78th St., #84
New York, NY 10024 USA
212-877-3168

Summary: *Initiation* is the first of four movements in the *Continuum* set. The underlying theme of *Initiation* is the beginning and evolution of consciousness. The goal of this series is to elicit a state of suspension both intellectually and emotionally on the part of the viewer.

Facial animation software: Larry Weinberg; **Film recording:** G.W. Hannaway and Associates; **Technical Consultant:** John Grower; **Production Assistants:** Erika Walczak and Ed Baltes; **Music co-written and produced by:** Kleiser-Walczak and Frank Seraline; **Dozo performed and sung by:** Perla Batalla; **Bass Guitar:** Rick Moore; **Drums:** Marvin Kanarek; **Talking Drum:** Mike Tempo; **Trumpet:** Ralph Rickett; **Saxophone:** Richard Hardy; **Violin:** Erika Walczak; **Backup Vocals:** Julie Beziat; **Recorded at:** Mad Dog Studios
Hardware: Hewlett Packard
Software: Wavefront Technologies

Breeze

Contact:

Arthur Schwartzberg
Xaos Inc. (formerly Eidolon Inc.)
350 Townsend St. #101
San Francisco, CA 94107 USA
415-243-8467

Summary: Seeking an emotive quality via harmony, composition, and choreography. Inspired by Henri Fantin-LaTour, 19th century French painter.

Produced by: Xaos Inc. (formerly Eidolon Inc.)

Credits: Art Director: M. Tolson, H. Landis, M. Malmberg, R. Tringali

Hardware: Eight networked Apollo workstations; AT Vista framebuffer

Software: Eidolon's proprietary 'Forum' system, Time Arts Lumena for paint

Produced by: Dean Winkler, Maureen Nappi

Hardware: Silicon Graphics 3130 workstations, Celerity 1260 rendering engines, Silicon Graphics GS-12 rendering engine, Raster Tech one/80 frame buffer, Quantel Paintbox and Harry with Rainbow, Grass Valley Group Kaliedoscope digital video image processors, Grass Valley Group GVG-300 switcher, Abekas A62 digital disk recorder, CMX-3600 editing controller, Sony DVR-1000 digital videotape recorders, Sony DVR-10 digital videotape recorders

Software: Wavefront Technologies 3D animation software (Model, PreView and Image), Post Perfect object generation/interpolation software, Quantel Ver 4.16 operating system, Kaliedoscope Ver 4.0b

Eurhythmy

Contact:

Susan Amkraut/Michael Girard
SCAN, Westerhavenstraat 11-13
P.O. Box 1329
9701 BH Groningen
THE NETHERLANDS
050-138343

Summary: *Eurhythmy*, a state of harmony between mind and body, is depicted in a surrealistic, spiritual dance.

Produced by: Susan Amkraut and Michael Girard, ACCAD, Ohio State University

Credits: Animation: Susan Amkraut, Michael Girard; **Music:** Michael Czeiszperger, Michael Girard

Hardware: Animation design: Symbolics 3600 Series LISP Machine; **Rendering:** Convex C1
Software: PODA - Articulated Figure Animation System by Michael Girard, FLOCK - Flocking Animation System by Susan Amkraut, TROUT - Rendering Software by Scott Dyer

Welcome to the ACM SIGGRAPH '89 Computer Graphics Theater, which includes nearly 30 minutes of full-color, stereoscopic 3D 35mm motion films. Be sure to pick up your polarized glasses at the entrance before you sit down. We'll cue you during the show when it's time.

We appreciate the cooperation of all contributors regarding time constraints. Due to a huge demand for tickets and an "intimately-sized" theater, producers were committed to a firm maximum length. Some producers elected to include credits in that time and some did not. More complete credits are herein.

Special screenings of two ten-minute films, L'Anniversaire/Anniversary and Paris: 1789, can be seen in the Hynes Auditorium Tuesday at 12:15 PM and 12:45 PM, and Thursday at 12:45 PM.

Show information is also published in the SIGGRAPH '89 Proceedings, in the SIGGRAPH '89 Final Program, and on the Computer Graphics Theater poster.

Animation Screening Rooms present ongoing programs continuously, Wednesday through Friday, in the Sheraton Ballrooms A, B, and Foyer. Animation Screening Room directories are available at the entrance to each room.

Enjoy!

Excerpts from

Leonardo's Deluge

Contact:

Karl Sims
Optomystic
725 N. Highland Avenue
Hollywood, CA 90038 USA

Summary: Leonardo Da Vinci's *Deluge* drawings have been put into motion using choreographed image flow techniques.

Produced by: Karl Sims, Optomystic
Credits: Animation: Karl Sims; *Leonardo's Deluge* was produced and directed by Mark Whitney for the Program for Art on Film, a joint venture of the Metropolitan Museum of Art and the Getty Trust.

Hardware: Connection Machine 2

Software: Special purpose image warping and vortex choreography software written in starlisp

Flora

Contact:

Yoichiro Kawaguchi
Nippon Electronics College
Dept. of Art
1-25-4, Hyakunin-cho
Shinjuku-Ku,
Tokyo 169 JAPAN
03-369-1995

Summary: *Flora* lives in the fantastic Paleozoic seashore or in the visional future. This piece can be viewed in its entirety in the HDTV (Hi-Vision) Computer Graphics panel, Thursday at 3:30 pm.

Produced by: Yoichiro Kawaguchi, Art & Science Lab., Nippon Electronics College
Credits: In cooperation with the New Video System Research Association; **Music by:** Tod Machover (Massachusetts Institute of Technology)

Hardware: Iris 4D/70

Software: GROWTH model, Metaball

Complexly Simple

Contact:

Shinichi Kasahara
Kajima Corporation
Information Processing Ctr., KI Bldg.
5-30, Akasaka 6 chome, Minatoku
Tokyo 107 JAPAN
03-5561-2111

Summary: Complex representation using simple object, simple color and simple motion.

Produced by: Kajima Corporation

Credits: Computer Graphics: S. Kasahara, Music: K. Shiomi

Hardware: Magic: high speed computer for graphics by Japan Control System Inc.

Software: Reals: in house ray tracing software

Be sure to put on your glasses for stereoscopic viewing when we cue you.

Stereoscopy is the science of two-eyed vision. Each eye sees a different view of the same image.

We perceive the difference between the two views as stereoscopic (two-eye) depth. The views converge to form one three-dimensional image.

In the Computer Graphics Theater, stereoscopic 3D images are created by superimposing two views of each image. Special glasses filter the two views so only the left eye sees the left view and only the right eye sees the right view. Our minds merge the two views into one 3D image which appears to extend into space.

Gas Turbine Flowfield Simulation

Contact:

Paul Kelaita
NASA Ames Research Center
MS 258-2
Moffett Field, CA 94035 USA
415-694-4453 or 694-4450

Summary: This stereoscopic 3D animation shows the pressure distribution obtained from a full 3D simulation of the flow inside a gas turbine.

Produced by: NASA Ames Research Center, Workstation Applications Office

Credits: Codes RFA & RFW

Hardware: Silicon Graphics 4D/70G workstation, Focus 35mm recording system
Software: Computations: N. Madavan, M.M.Rai (NASA Ames), S. Gavalil (Amdahl Corp.); Graphics: NASA Ames - Code RFW

COMPUTER ACM GRAPHICS

SIGGRAPH

THEATER

'89

Her Majesty's Secret Serpent

Contact:
Gavin Miller
Apple Computer Inc. MS60W
20705 Valley Green Dr.
Cupertino, CA 95014 USA
408-974-0186

Summary: All of the motion was created with simulated dynamics.

Produced by: Apple Advanced Technology Group

Credits: Gavin Miller, Michael Kass, Lance Williams, Roger Spreen, Dick Craddock, John Worthington

Hardware: Silicon Graphics Power Series workstation

Software: In house modeling, rendering, animation and simulation software

Industrial Light & Magic SIGGRAPH '89 Reel

Contact:
Douglas Kay
Industrial Light & Magic
P.O. Box 2459
San Rafael, CA 94912 USA
415-258-2000

Summary: A demo of computer graphic special effects produced for recent theatrical-release motion pictures.

Produced by: Industrial Light & Magic, a division of Lucasfilm, Ltd.

Imagination

Contact:
Shuji Asano
Links Corporation
3-13-6 Higashi-shinagawa, Shinagawa-ku
Tokyo 140 JAPAN
03-450-8181

Summary: In dreams, anything can happen.....

Wouldn't it be wonderful if you could make Any one of your dreams come true!

You must open your mind wide when you dream.

If you believe in the power of dreams, You can reach for the stars.

For centuries, the starlit sky has been a home For all sorts of mysterious creatures.

This is also the power of dreams.

You should try to treasure whatever Your imagination conjures up in your dreams.

Credits: Computer Graphics Department, Industrial Light & Magic
Hardware: Silicon Graphics' 4D/70G, 4D/80GT, 4D/120's, Pixar Image Computers, Proprietary Film Scanners

Software: Alias Animation System, Pixar RenderMan Rendering System, Proprietary animation, modeling & image processing tools

Each thought has a special meaning. Science has given us so much. Because people dreamed whatever they wanted, And then turned their dreams into reality. Even if someday we live on another planet, We would still long to see dandelions blooming, And the ocean glittering in the morning sun. Rabbits, wind, apples and snowflakes all have dreams. If we all dream for peace and happiness For all things on earth, Our dreams will surely come true!

The original film format is 70mm, 8 perforations per frame (JAPAX projection system). Images were rendered at 1400 x 1008 resolution.

Inforum

Contact:
Lisa Berson
Design/Effects
535 Plasamour Dr.
Atlanta, GA 30324 USA
404-876-7149

Summary: Computer generated representation of a large corporate office facility prior to construction.

Produced by: Design/Effects

Credits: Client: Jack Morton Productions; Animators: Bill Schultz, Henry LaBounta, Barry Dempsey, Jim Moorhead

Hardware: Silicon Graphics 4D/70, 3130; Abekas A60; MC/Tondreau Motion Control System

Software: Wavefront Technologies

Gibbon Event

Contact:
Alan Ridenour
UCLA Design Dept.
1300 Dickson Art Center
Los Angeles, CA 90024 USA
213-206-0206

Summary: *Gibbon Event* was done by a graduate student from The After Hours Group of the UCLA Animation and Design Department who spent many, many research hours at the zoo.

Produced by: Alan Ridenour

Credits: Animator: Alan Ridenour; Music: Andrew Deaseantro

Hardware: Silicon Graphics Iris 3130

Software: Wavefront Technologies

Produced by: Mitsubishi Joint Committee Exotic Showcase '89, Dentsu Inc., Links Corp.

Credits: Client: Mitsubishi; Planning: Dentsu Incorporated; Producer and Script: Madoka Katoh; Assistant Producers: Jun Ueno, Shinji Imamura; Assistant Director: Motoi Hiraiwa; CG Production: Links Corporation; CG Supervisor: Fumio Nagase; CG Producer: Masao Ose; CG Assistant Producer: Shuji Asano; Production Manager: Hideaki Noguchi; CG Creators: Hiroyuki Hayasi, Hideaki Nakano, Yuji Hamajima; Assistant Creators: Shoko Kitamura, Midori Nagai, Jun Watanabe; Technical Manager: Tamotu Machida; Technical Directors: Takahiro Yamamoto, Koutaro Abe, Jiro Simanuki, Yoshihisa Hirano; Software Developers: Hiroshi Yoshimura, Toshio Tsukada, Nobuhiro Tanaka; System Engineers: Aisushi Shiokawa, Katsunori Kunie; Film Engineer: Yutaka Kawamura;

Knickknack

Contact:
Ralph Guggenheim
Pixar
3240 Kerner Blvd.
San Rafael, CA 94901
415-258-8100

Summary: This film has it all! Not just one or two, three full Cartesian dimensions! Not just two or three, but nine heartwarming characters! Not just three or four, but all the known human emotions! Stereoscopic 3D film.

Produced by: Pixar

Credits: John Lasseter, William Reeves, Eben Ostby, Flip Phillips, Craig Good, Ralph Guggenheim, Don Conway, Deirdre Warin, Tony Apodaca, Yael Millo, Gary Rydstrom

The Hammer Sequence

Contact:
Susan Van Baerle
New York Institute of Technology
Computer Graphics Laboratory
Wheatley Road, Gerry House
Old Westbury, NY 11568 USA
516-686-7644

Summary: A king has a contest to find the best gavel with which to rule his kingdom. Computer graphics techniques were used to produce full character animation from a storyboard designed for traditional animation. Motion control techniques included standard and parameterized keyframing, procedural descriptions, and dynamic simulation.

Produced by: New York Institute of Technology, Computer Graphics Laboratory

CG Director: Masaaki Taira; System Support: Mitsubishi Electric Corporation, Mitutoyo Corporation; Film Recording: Kodak Imagica K.K.; Film Processing and Production Assistance: Imagica Corporation; Production Assistance or Collaboration with: Cap Co. Ltd., Animation Staff Room Inc.; Character Designers: Shingo Ozaki, Nobuyoshi Matsui; CopyWriter: Seiko Itou; Narrator: Eiji Okada; Music Production: Supermuzak Corporation; Music Producer: Rie Saito; Music Director: Nobuyuki Takahashi; Composition: Yoshihiro Kunimoto; Sound Effects: Sound Craft Inc.; Directed by: Tsutomu Iwamoto

Hardware: LINKS-1 system, SUN-4, Silicon Graphics Iris 4D

Software: TRACY (original software which integrates raytracing and scanline algorithm)

Hardware: Computer Consoles Power 6/32 Computers, Evans & Sutherland Picture Systems, Pixar Image Computers, Pixar RenderMan™ Rendering Accelerators, Tektronix SGS620 Stereoscopic Display Monitor, Agfa Matrix Analog Film Recorder

Software: Pixar Menv Modeling and Animation System, Pixar PhotoRealistic RenderMan™ Rendering Software

Credits: Steve DiPaola, Colin Hui, Irene Lee, Dick Lundin, Glenn McQueen, Peter Oppenheimer, Louis Paul, Susan Van Baerle; Storyboard: David Lubell; Production Coordinator: Susan Van Baerle; Sound: Kurt Ritshie; Narrator: Bill Wolff; Film & Post: Richard Carter, Cyd Gordon, Louis Paul, Ariel Shaw (manager); Video Post: The Video Center; 2D Support: Vito Amato, Tomas Cardone; Thanks to: Paul Isaacs, Emil Knight; Administrative Support: Alexander Schure, Louis Schure, Fred Parke

Hardware: Evans & Sutherland MPS, DEC VAX 785, Sun 4, Silicon Graphics Iris 4D, Dicomed Film Recorder, Ikonas & Trancept framebuffer

Software: NYIT in house software

In Search of New Axis

Contact:
Toshifumi Kawahara
Polygon Pictures Inc.
Bond Street T11
2-2-43 Higashi Shinagawa
Shinagawa-ku
Tokyo 140 JAPAN
03-474-4321

Summary: This research piece explores a way to handle an object's deformation in the most unified manner. X,Y,Z,Q combine twisting, bending and diversion, which are the important attributes during deformation.

Produced by: Polygon Pictures

Credits: Toshiaki Katoh; Collaborators: Takashi Fukumoto, Tatsuya Shimamoto, Yasuo Tojo, Akira Yoshida; Associates: Namco, Sony, Nippon Steel

Hardware: SUN 4/260, SUN 3/60, NEWS 841
Software: Original Software

The Little Death

Contact:
Matt Elson
Symbolics Inc.
150 East 58th St., 34th fl.
New York, NY 10155 USA
212-371-2112

Summary: A visual poem created for HDTV. The original work on HDTV can be seen at the Symbolics booth on the Exhibition Floor.

Produced by: Symbolics Graphics Division
Credits: Director: Matt Elson; Producer: Marc Scaparro; Music: Haze Greenfield; Guru: Larry Stead; HDTV Output: Sony Advanced Systems Division

Hardware: Symbolics 3600 series computers
Software: Symbolics S-Products release 4.1

Locomotion

Contact:

Steve Goldberg
Pacific Data Images
1111 Karlstad Dr.
Sunnyvale, CA 94089 USA
408-745-6755

Summary: Can a classic children's fable survive in today's world of flashy computer graphics? We think it can. We think it can. We think it can.

Produced by: Steve Goldberg, Pacific Data Images

Credits: *Produced and Directed by:* Steve Goldberg; *Animation Director:* Howard E. Baker; *Story:* Henry F. Anderson III, Steve Goldberg, Howard E. Baker, Jim Ward, Tim Johnson, Nick Ilyin, Joe Palrang, Bill Foss; *Backgrounds:* Nick Ilyin; *Animation:* Steve Goldberg, Howard E. Baker, Tim Johnson, Karen Schneider, Nick Ilyin, Roger L. Gould, Carlos Arguello, Michael Coltery, *Music*

Megacycles

Contact:

Don Mitchell
AT&T Bell Labs
Rm 3C-446 B
600 Mountain Ave.
Murray Hill, NJ 07974 USA
201-582-5862

Summary: Extensions to constructive solid geometry (CSG) allowing recursive models. The final scene of this film, showing over 12,000 robot figures, is represented by only a few thousand bytes of data.

Produced by: John Amanatides and Don Mitchell

Hardware: AT&T Pixel Machine 964
Software: FX, experimental ray tracer

Parfums de Vie

Contact:

Jean-Luc Ortega
Sogitec
32, Bd de la Republique
92100 Boulogne FRANCE
1-46-08-13-13

Summary: An oniristic travel between life, memory and dreams.

Produced by: Sogitec

Credits: *Production Manager:* Jean-Luc Ortega; *Director/Animator:* Daniel Poiroux; *Graphics:* Elisabeth Fossey

Hardware: Convex C1

Software: Action 3D/Sogitec

and Sound Effects: Christopher L. Stone; *Locomotion Software:* Graham Walters; *Special Effects:* Susan McVey, Rex Grignon, Carlos Arguello; *Software:* Thad Beier, John Gross, Michelle Tsui, Richard Chuang; *Modeling:* Nick Ilyin, Steve Goldberg, Tim Johnson, Karen Schneider, Ray Giaratanna, Rex Grignon, Theresa Ellis, Michael Coltery; *Digitizing:* Jane DeKoven, James Ward, Andi Cho; *Production Manager:* Patty Wooton; *Loads O' Thanks To:* Carl Rosendahl, Glenn Entis, Nancy St. John, Mark Goldberg, James Dixon, Dick Walsh, Larry Lessler, Mary Keenan, Shae McClory, Debbie Gaeta, Mark Sorensen, Richard Raynis, Terry Emmons, Lucy Torres

Hardware: Silicon Graphics Personal Iris and 4D/GTX, MIPS M-120, Raster Tech 1/25 framebuffer

Software: PDI in house proprietary software

A Moonlit Spring Night at Ma-ma Temple

Contact:

Naoko Motoyoshi
4-24-12 Higashikoikiwa
Edogawa-ku
Tokyo 133 JAPAN
03-672-4516

Summary: The cherry blossom spirits come out to play among the blossoms on a moonlit spring night.

Produced by: Naoko Motoyoshi, HighTech Lab. Japan

Credits: *Computer Graphics:* Naoko Motoyoshi; *Music:* Yasuhiro Kawasaki

Hardware: Iris 3030, Pixar

Software: Wavefront Technologies, HighTech Lab. Japan

Paris: 1789

Contact:

Xavier Nicolas
ExMachina
22, rue Hegesippe Moreau
75018 Paris FRANCE
1-43-87-58-58

Summary: A walk in Paris at the Revolution's dawn.

Produced by: Initial Groupe, Club d'Investissement Media, Centre National de la Cinematographie

Credits: The ExMachina Team; *Directed by:* Jose Xavier, Jerzy Kular

Hardware: Silicon Graphics

Software: Explore (Thomson Digital Image)

The Making of Without Borders

Contact:

Lisa Berson
Design/Effects
535 Plasamour Dr.
Atlanta, GA 30324 USA
404-876-7149

Summary: The story of the design and creation process for the opening of a documentary about saving the world's rivers. Non-keyframe based techniques were used. The program was created and composited entirely digitally.

Produced by: Design/Effects

Credits: *Client:* Nick Boxer, TBS Documentary Unit

Hardware: Silicon Graphics 4D/70, Sun 3/280, Abekas A60, Sony DVR 1000, Digital Quantel Suite

Software: Wavefront Technologies and in house software

NBC 1988 Olympic Open

Contact:

Sally R. Kanner
Filigree Films
155 Ave. of the Americas
New York, NY 10013 USA
212-627-1770

Produced by: Filigree Films, Inc.

Credits: *Designers:* Terry Mui, Syd Goldberg, Kim Man Ku; *Project Art Director:* Scott Radar; *Company Art Directors:* Terry Mui, Syd Goldberg; *Director of Animation:* Terry Mui; *Modeling & Software:* Don Livingston, Mi Kyung Kim, Tetsu Kishimaki

Hardware: Apollo Domain Series

Software: Intelligent Light

A Public Service Announcement

Contact:

Phillip J. Barry
Dept. of Computer Science
University of Waterloo
Waterloo, Ontario
CANADA N2L 3G1
519-888-4421 or 888-4534

Summary: This work illustrates the use of hierarchical B-splines for character animation.

Produced by: WATARP

Credits: Dave Forsey, Phil Barry, Shawn Neely, Ron Pterille, Jeff Smith, Dave Bloddale

Hardware: Silicon Graphics 4D-GT, VAX 8600, Tascam Porta Two, Kazoo

Software: Spline modeling and animation software by David Forsey

Margaux Cartoon

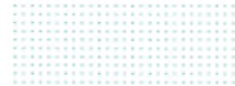
Contact:

Beth Warshafsky
Electric Picture Works
24 W. 40th St., 3rd floor
New York, NY 10018 USA
212-219-1912 (Home)
212-869-2500 (Work)

Summary: This work sprang out of the immediacy of drawing, direct from my subconscious.

Produced by: Beth Warshafsky

Hardware: Quantel Paintbox, Abekas A62



Night Cafe

Contact:

Sharon Calahan
Cubicomp Canada Ltd.
450, 1550 Alberni St.
Vancouver, British Columbia
CANADA V6G 1A5
604-685-1300

Summary: We wanted to produce a character piece with the flavor of animation as it might have been created in the thirties. We chose settings based on paintings by American painter Edward Hopper to depict the mood of the era. The Wurlitzer jukebox and the Duesenberg automobile were modeled using our new 3D Boolean software. Experimental particle software was used to generate a cloud of pepper.

Produced by: Sharon Calahan

Send in the Clouds

Contact:

Geoffrey Y. Gardner
MS D12-237
Grumman Data Systems
1000 Woodbury Rd.
Woodbury, NY 11797 USA
516-682-8417

Summary: Simulation of cumulus cloud development.

Produced by: Grumman Data Systems, Computer Graphics Laboratory

Credits: Geoffrey Y. Gardner, Eric De Mund, Bill Sakoda

Hardware: Silicon Graphics Iris 4D/70 GT, Lyon Lamb MINI VAS, Sony BVU 950 SP

Software: Grumman proprietary, Fortran 77 and C code

Mars - The Movie

Contact:

Betsy Asher Hall
JPL
4800 Oak Grove Dr
M/S 168-522
Pasadena, CA 91109 USA
818-354-6257

Summary: A fly-by over the distinctive Mars surface using satellite data represents the first animated look at some of the planet's geographically-intriguing regions.

Produced by: Jet Propulsion Laboratory, Digital Image Animation Lab (DIAL)

Credits: Betsy Asher-Hall, Jeffrey R. Hall, Kevin J. Hussey, Charles Thomas Kelly, Robert A. Mortensen, Andrew J. Pursch

Hardware: MicroVAX II, VAX 8600, Alliant FX8-4, Sun 4

Software: JPL's Image Processing Software - VICAR 2

Credits: *Cubicomp Canada, Vertigo Software and Hardware Research and Development*

Team: Rikk Carey, Rod Davison, Bill Diack, Dave Dignam, Tom Haws, Gary Hooper, Mike Kelley, Shawn Neely, Jo Anne Osberg, Sukey Samra, Tracey Theaker, V.P. Venugopal, Paul Wagschal, Gord Wait, Ron Woods

Hardware: Silicon Graphics and Cubicomp Corporation proprietary hardware

Software: Cubicomp Corporation's Vertigo software



Sio Benbor Junior

Contact:

Fantôme
71 rue Ampere
75017 Paris FRANCE
1-40-53-01-23

Summary: *Sio Benbor Junior* is a parody of Luxo Junior by John Lasseter and the second episode of the humorous film series. In spite of his young age, ridiculous red nose, and artificial understanding, Sio Benbor was a big hit at Imagina '89 where he was awarded the European Grand Prix PIXEL-INA.

Produced by: Fantôme

Hardware: Cubicomp

Software: Picturemaker

Mathematics!

Contact:

Don Delson
305 S. Hill
Pasadena, CA 91106 USA
818-356-3750

Summary: Project Mathematics! is a series of videotapes to teach high school math, funded with seed money from SIGGRAPH and ongoing funds from the National Science Foundation, Hewlett-Packard, and Truevision.

Produced by: Jim Blinn

Hardware: Everex PC compatible, Abekas

Software: In house software

Numerical Experiments on the Interaction of Disk Galaxies

Contact:

Gordon Bancroft
NASA Ames Research Center
MS 258-2
Moffett Field, CA 94035 USA
415-694-4052

Summary: Stereoscopic 3D film.

Produced by: NASA Ames Research Center, Workstation Applications Office

Credits: Bruce Smith, Richard Miller, Greg Roelofs, Dan Dempsey, George Makatura

Hardware: Silicon Graphics 4D/70GT, Focus ImageCorder 4500

Software: Graphics Animation System

Soap Opera

Contact:

Peter Oppenheimer
NYIT Computer Graphics Lab
Wheatley Rd.
P.O. Box 170
Old Westbury, NY 11568 USA
516-686-7644

Summary: A thin film about a fat head. Stereoscopic 3D film.

Produced by: New York Institute of Technology, Computer Graphics Laboratory

Credits: *Animation:* Peter Oppenheimer; *Film Production:* Ariel Shaw, Cyd Gordon; *Post Production:* Richard Carter

Hardware: VAX 785, Ikonas framebuffers, Dicomed D48/002

Software: NYIT 3DV system

Study of a Numerically Modeled Severe Storm

Contact:

Daniel Brady
152 Computing Applications Bldg.
605 East Springfield Ave.
Champaign, IL 61820 USA
217-244-2003

Summary: The understanding of severe storms begins by identifying pre-storm conditions. Using this initial environment, a thunderstorm's complexity is modeled with a set of mathematical equations. These equations are solved on a supercomputer, then visualization techniques are employed to simulate the air flow and other features that exist during a storm's lifetime.

Tipsy Turvy

Contact:

Alan Norton
IBM Research 3B-38
P.O. Box 704
Yorktown Heights, NY 10598 USA
914-789-7195

Summary: The Utah teapot stars in a simulation-driven fantasy.

Produced by: Computer Animation Systems, IBM Research

Credits: Bob Bacon, John Gerth, Alan Norton, Paula Sweeney, Greg Turk

Hardware: IBM 3090, Iris 4DGT

Software: AIX/370, custom simulation and rendering software

Voyager: Journey to the Outer Planets

Contact:

Sylvie Rueff
Jet Propulsion Laboratory
MS. 510-202
4800 Oak Grove Dr.
Pasadena, CA 91109 USA
818-397-9695

Summary: The Voyager Project has supported and reflected the growth of JPL's Computer Graphics Lab. Neptune is this year's star.

Produced by: Jet Propulsion Laboratory, Computer Graphics Lab with the Voyager Mission Planning and the Space Image Processing Group

Produced by: Scientific Visualization Program, National Center for Supercomputing Applications, supported by the National Science Foundation, State of Illinois, University of Illinois at Urbana-Champaign and Corporate Partners.

Credits: Animation: Matthew Arrott, Mark Bajuk, Colleen Bushell, Jeff Yost; Research: Robert Wilhelmson, Harold Brooks, Brian Jewett, Crystal Shaw, Louis Wicker; Support: Randy Butler, and the Scientific Media Services, NCSA; Script: Cathy Robinson;

Audio: Roger Francisco; **Live action footage:** Courtesy of the National Severe Storms Laboratory and the University of Mississippi

Hardware: Alliant VFX/80, Silicon Graphics Iris 3130, Abekas A62, Cray-2, Macintosh II, Sun 360

Software: Wavefront Technologies, various in house visualization software.

Treadmill

Contact:

Geoff Campbell
20 George Henry Blvd.
Willowdale Ontario
CANADA M2J 1E2
416-494-8576

Summary: This short piece evolved from being an exercise for a walk cycle to the animation of two men pushing wheels.

Produced by: Geoff Campbell

Credits: Special thanks to Onzieme Ciel for use of their facilities.

Hardware: Silicon Graphics Iris 4D/70 workstation

Software: Alias

Credits: Computer Graphics Lab, **Software, model building and production:** James F. Blinn, Tom Brown, Ed Catmull, Pat Cole, Jeff Goldsmith, Julian Gomez, Booth Hartley, Linda Lee, Sylvie Rueff, Alvy Ray Smith, Tom Wolfe, Bill Woody; **Pre-Encounter Planet Painter:** Don Davis; **System and hardware support:** Joe Boyle, John Dundas, David DeFrancisco, Larry Goforth, Chuck Fetterhoff, Kevin Fisher, Joe Fulton, Eric Levy, Peter Lyman, Barbara Kajiya, Lucy Robles, Paul Short, Glenn Zuckman; and others whose work we have built with over our 12 year history but whose names have been lost; **Managers:** Robert E. Holzman, Garrett Paine, David Rose; **Voyager Project:** Charlie Kohlhase, William Kosman; **Multimission Image Processing Lab, Planetary Applications Group:** Glenn Garneau; Jet Propulsion Laboratory/NASA; **Special thanks to:** Arden Albee, Robert E. Dewar, Tom Duxbury,

Tempest in a Teapot

Contact:

Thomas D. Desmarais
Mail Stop K1-86
P.O. Box 999
Richland, WA 99352 USA
509-375-2782

Summary: A variety of techniques are used to visualize the results of simulating water being heated in a teapot. Stereoscopic 3D film.

Produced by: Information Visualization Group at Battelle Memorial Institute, Pacific Northwest Division

Urgence/Emergency

Contact:

Doris Kochanek
Centre d'Animatique, P-36
National Film Board of Canada
P.O. Box 6100, Station A
Montréal, Québec
CANADA H3C 3H5
514-283-9309

Summary: Computer animation and live action are intercut to dramatically illustrate an angioplasty operation to open a partially blocked coronary artery. Excerpt from a 35 minute drama produced in the 70mm IMAX format.

All computer animation sequences were rendered at 4096 x 3003 resolution. X-ray sequences were digitized from 35mm negative and enhanced with various image processing tools before being digitally composited into the animation.

David Em, Marian Inova, Tony Longson, Michael Plesset, Larry Robertson, Walt Victor, Steve Wall; **Uranus magnetosphere model:** G. Hannes Voigt, Rice University; **Miranda:** Larry Sodderbloom, Kay Edwards, U.S. Geological Survey, Flagstaff, Arizona

Hardware: PDP-11, Evans & Sutherland PS-2 and framebuffer, VAX 11/780, IP8500, Sony BVH 2500

Software: In house

Credits: Simulation: Loren Eyler; Visualization Software: Kevin Adams, George Chin, Tom Desmarais, Mike Portwood, Jim Thomas, Dave Thurman; **Narration:** Larry Rader; Iris hardware loaned by Silicon Graphics Inc.

Hardware: Silicon Graphics Iris 4D/120GTX

Software: Custom visualization software developed at Battelle, Memorial Institute, Pacific Northwest Division

Produced by: National Film Board of Canada and Lavalin Communications

Credits: Director/Animator: Doris Kochanek; **Computer Graphics Team:** Ines Hardtke, Terry Higgins, Doris Kochanek, Dave Marlindale; **Producer:** Robert Forget

Hardware: Silicon Graphics 2400T and 4D/70 workstations, Celco CFR-8000 film recorder, Eikonix 78/99 scanner mounted on Oxberry optical printer

Software: Custom packages developed in house and Wavefront Technologies Inc.

ACM SIGGRAPH '89 Computer Graphics Theater

Chair

Sally N. Rosenthal *Digital Equipment Corporation*

Consultant

Johnnie Hugh Horn *Elektra Design Group*

Jury

Loren Carpenter *Pixar*

Lucy Petrovich *University of Wisconsin at Madison*

Fred Ward *National Geographic Magazine*

Committee

Maxine D. Brown *University of Illinois at Chicago*

Craig Good *Pixar*

Victi Putz *Victi Putz Design*

Sylvie Rueff *JPL and Caltech*

Kathy Tanaka *Independent*

Animation Screening

Room Coordinator

Rachel Carpenter *Cinematrix*

Test Scenes from Echoes of the Sun

Contact:

Fumio Sumi
Systems Engineering Department
Expo '90 Promotion Group
Fujitsu Limited
Marunouchi Center Building
6-1 Marunouchi 1-chome
Chiyoda-ku
Tokyo 100 JAPAN
03-216-9243

Summary: Scenes from the Omnimax stereoscopic 3D film for the Fujitsu Pavilion at Osaka Expo '90

Produced by: Fujitsu Ltd. and IMAX Systems Corp.

The Virtual Lobby

Contact:

John Rohlf
307 Sitterson Hall
The University of North Carolina
Chapel Hill, NC 27599 USA
919-962-1827

Summary: An animated and real-time walk-through of a realistically illuminated virtual lobby.

Produced by: John Rohlf

Credits: J. Airey, P. Rheingans, J. Rohlf; **Principal Investigator:** F.P. Brooks

Hardware: SUN and DEC workstations, Pixel-Planes 4

Software: Auto CAD; custom radiosity, animation, and rendering software

Special Thanks

Conference Co-Chairs

Branko J. Gerovac *Digital Equipment Corporation*

Christopher F. Herot *Buisdream*

Conference Coordinator

Molly Morgan Kuhns *ACM SIGGRAPH '89*

Dick Adams *Polaroid Corporation*

Gus and Charlie Athanas

Rick Beach *Xerox PARC*

Jim Brooks *Victi Putz Design*

Nancy Clark

Suzi Corona *Digital Equipment Corporation*

Larry Cuba *Read/Write Press*

Tom DeFanti *University of Illinois at Chicago*

Bernard Dresner *ACM SIGGRAPH France*

Scott S. Fisher *NASA Ames Research Center*

Leslie Getz

Gaye Graves *NASA Ames Research Center*

Doris Kochanek *National Film Board of Canada*

John Lasseter *Pixar*

Nelson Max *Fujitsu*

Subhana Menis *Xerox PARC*

Robert Mueller *Laser Fantasy*

Mark Ober *Theatric Support*

Nancy, Mace, Lila, Macey Rosenthal

Credits: **Direction:** Roman Kroitor, Nelson Max, Saburo Yanase; **Technical Direction:** Doug Lerner; **Rendering:** Nelson Max, Keiichi Kameda; **Texture and Bump Maps:** Takayuki Ohguchi, Nobuhiko Hayashi; **Root Scene Design:** Takayuki Ohguchi, Masahiro Satoh, Katsuyoshi Tobina, Hiroyuki Seshita; **Phloem scene design:** Hideki Okano, Masaya Kaji, Naoyuki Nishi; **Programming:** Masanori Kakimoto, Junji Kouno, Jun Nozaki, Hiroshi Oishi, Mitsuo Terada, Akihiko Ueda; **Music:** The Ketchups

Hardware: Fujitsu VP200 supercomputer, Management Graphics Solitaire film recorder

Visualization of Simulated Treatment of an Ocular Tumor

Contact:

Wayne Lytle
Cornell National Supercomputer Facility
B49 Caldwell Hall
Garden Ave.
Ithaca, NY 14853 USA
607-255-4162

Summary: Scientific visualization in action to save life.

Produced by: Wayne Lytle

Credits: Supercomputer simulation: Mark Rondeau; **Data acquisition:** Anne Dumke

Hardware: Animation: Silicon Graphics 4D/80; **Rendering:** IBM 3090 Supercomputer

Software: Wavefront Technologies Inc.

Allen Akin, John Danskin, Jeff Lane, Kathy Porter, and the entire Workstation Systems Engineering Group, Digital Equipment Corporation Palo Alto, CA

IPA the Edling House *Chicago, IL*
(Animation Screening Room video editing)
Pacific Video Resources *San Francisco, CA*
(Computer Graphics Theater video editing)
Pixar *San Rafael, CA*
(Computer Graphics Theater film editing)
Polaroid Corporation *Norwood, MA*
(polarized lenses)
Theatric Support *Studio City, CA*
(glasses)
Victi Putz Design *Falmouth, MA*
(poster, glasses, programs)
Xerox PARC *Palo Alto, CA*
(image processing)