

ACM SIGGRAPH VIDEO REVIEW

ISSUE 119



SIGGRAPH 96

SCIENCE & TECHNOLOGY PROGRAM

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2 CALVIN: Collaborative Architectural Layout Via Immersive Navigation

PRODUCER:
Jason Leigh

SUMMARY:
“CALVIN” demonstrates a unification of virtual reality, high speed & bandwidth ATM networking technology, and novel user interfaces in the creation of a collaborative design environment. “CALVIN” allows multiple transcontinentally situated participants to share a common virtual environment that facilitates architectural layout.

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1 Artica Intergalaxia

PRODUCER:
Margaret Watson

SUMMARY:
“Artica Intergalaxia” is an exhibition of real-time virtual reality art in an interactive, intergalactic gallery. The application explores the idea of art and galleries in virtual reality. Currently, it can be experienced in VR systems such as the CAVE™ and the ImmersaDesk™ at the University of Illinois at Chicago.

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3 Subdivision Kaleidoscope

PRODUCER:

Denis Zorin

SUMMARY:

Subdivision is an efficient way to generate smooth surfaces. The appearance of the limit surface is to a large extent determined by few parameters (eigenvalues, tension) of the scheme. Visually complicated shapes can be obtained from simple initial polyhedra (icosahedron in the video). Divergence of subdivision for large values of parameters also produces interesting visual effects. More details and information on subdivision algorithms used in this animation can be found in the SIGGRAPH 96 paper "Interpolating Subdivision for Meshes of Arbitrary Topology."

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4 Bio-medical Visualization System - Mouse Embryo Visualization

PRODUCER:

Hideo Yamashita

SUMMARY:

A 3D model of a mouse embryo is reconstructed from serial microscopic cross-sections. This process utilizes novel active contour models, semi-automatic topology reconstruction, triangulation methods and semi-transparent visualization.

CONTRIBUTORS:

Directors: Roman Durikovic,
Kazufumi Kaneda
Animation: Roman Durikovic
Music: Masafumi Hirata
Narrator: Paul Williams
Hardware: Silicon Graphics
Indigo2
Software: In-house Bio-medical
Visualization System

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Machinery Laboratory,
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5 Formation of Accretion Disks and Jets Around Black Holes

PRODUCER:

Joel Welling

SUMMARY:

This educational video includes scientific data visualizations from accretion disk and jet simulations. The visualizations are introduced with an artist's impression of an accretion disk and are narrated to provide insight into scientific investigation in this area.

CONTRIBUTORS:

Graphics and Animation:

Gregory Foss

Software Support: Grace Giras

Video Support: Anjana Kar

Narration: Joel Welling

Accretion Disk Researchers:

John F. Hawley, University of

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3-D Jet Research and

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6 Hydrodynamic Simulations of Star Formation

PRODUCER:

Andrea Malagoli

SUMMARY:

A simulation of a gas which collapses under the influence of its own gravitational field to form a compact spherical object, this visualization shows a three-dimensional volume-rendered representation of the gas mass density as it evolves in time.

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7 Calderaland

PRODUCER:

Complex Systems Research,
Inc.

SUMMARY:

Created for public display at the Fiske Planetarium at the University of Colorado, "Calderaland" cautions the public, in an entertaining and educational way, about the frequent use of exaggeration in digitally rendered planetary landscapes. What REALLY awaits the first tourists on Mars?

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8 FMC Subsea GL/GLL Modular Cluster Manifold System

PRODUCER:

Michael Stafford

SUMMARY:

This animation shows the typical installation procedures for the FMC modular cluster manifold system. It was created using Lightwave 3D for modeling and animation, and was output to tape in real-time using a DPS Perception Card.

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9 MMB & Renaissance

PRODUCER:

F.A.B.R.I.Cators

SUMMARY:

An overview of the Multi Mega Book (MMB): Interactive-Book-Installation, the MMB is a Virtual Book consisting of Maxi-Pages where participants can interactively explore a route through the Renaissance period. The period's most noted artwork, architecture and innovations are featured.

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**10 The Little Arrow that
Couldn't****PRODUCER:**

Christina Vasilakis

SUMMARY:

This parody of educational animation explains the mathematical paradoxes that preceded calculus and which confronted the ancient Greek mathematician, Zero.

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Paul Neumann

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**11 Visualizing Time-
dependent Particle
Tracing for the V-22
Tiltrotor Aircraft****PRODUCER:**

Michael Gerald-Yamasaki

SUMMARY:

This explanatory video illustrates particle tracing: a flow visualization technique which is commonly used to study time-dependent computational fluid dynamics simulations. Using a curvilinear multi-zoned grid based on the V-22 tiltrotor, the processes of velocity interpolation, cell search, particle integration, and grid jumping are illustrated.

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12 Transparence

PRODUCER:

Bruno Simon

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13 The Living Cell

PRODUCER:

Home Run Pictures

SUMMARY:

This program, created for planetarium usage, is an educational tour of the workings of the human cell. This excerpt is the program's ending. It takes the viewer on a final roller coaster-style ride through a cell as it might appear to a miniature traveller. All cell components are accurately depicted.

CONTRIBUTORS:

Client Producer: Carnegie

Science Center/Buhl

Planetarium

Executive Producer: Martin

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Animation Director: Wendy Jobe

Technical Director: Tom Casey

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