



ISSUE 98

**New Directions in Virtual
Reality Table of Contents**

1. Virtual Reality: Immersed in High Performance Computing and Communications - *EVL, University of Illinois at Chicago*
2. NASA Telepresence Video - *Mewhinney, NASA Ames Research Center*
3. Advanced Computing Group Visualization Laboratory - *Tanner, Boeing Defense & Space*
4. Discovering Virtual Reality: An Experiment in Learning - *Bricken, HITLab, University of Washington*
5. Observing a Volume Rendered Fetus Within a Pregnant Patient - *Houseman, University of North Carolina at Chapel Hill*
6. The Smart Endoscopic Environment - *Chen, Medical Media Systems*
7. Scientists in Wonderland: A Report on Visualization Applications in the CAVE Virtual Reality Environment - *EVL, University of Illinois at Chicago*

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ACM SIGGRAPH Video Review

Issue 98

**New Directions
in Virtual
Reality**

1 ■ Virtual Reality Immersed in High Performance Computing and Communications

Summary:

We are no longer outside the computer looking in, but we are inside the computer looking out! Virtual reality applications in the areas of science and engineering, manufacturing and construction, health care, environmental monitoring, education and lifelong learning are high-lighted in this video presentation.

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2. NASA Telepresence Video

Time: 00:03:42

Summary:

The NASA. Ames Research Center has taken the idea of being there a few steps further. This video explores NASA's most recent advances in the area of telepresence research. An overview of various applications is provided.

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3 ■ Advanced Computing Group Visualization Laboratory

Time: 00:04:09

Summary:

Boeing's Visualization Group's applications/research in immersive and non-immersive virtual reality are summarized. Examples showing how virtual reality is used as an enhancement to computer-aided design, as a review tool for testing prototypes before they are built, for lay-out and facilities planning, operator training, human factors considerations and for simulation of military and space pro-grams are covered.

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4 ■ Discovering

Virtual Reality: An Experiment in Learning

Time: 00:05:22

Summary:

Fifty-nine Seattle youngsters experiment with virtual reality at the Technology Academy at the Pacific Science Center. Their mission - to design a virtual world of their own creation. Scientists at the University of Washington, Human Interface Laboratory want to know more about how youngsters will use virtual reality . How readily will they pick-up the needed technical skills? How creative can they get? Will they enjoy this educational challenge?

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5 ■ Observing a Volume Rendered Fetus Within a Pregant Patient

Time: 00:00:31

Summary:

A short excerpt of the University of North Carolina at Chapel Hill's current research explores a volume rendered fetus as seen thru a head-mounted display composited with life-action video.

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Chapel Hill

6 ■ The Smart Endoscopic Enviroment

Time: 00:02:02

Summary:

The Smart Endoscopic Environment is a prototype computer-aided minimally invasive surgery (CAMIS) system. Real-time datafusion of the endoscopic video, with a patient-derived computer model

is achieved by tracking all the moving elements. Benefits of CAMIS systems include greater visualization of the joint and easier navigation through highlighted anatomical landmarks.

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7 ■ Scientists in Wonderland: A Report on Visualization Applications in the CAVE Virtual Reality Environment

Time: 00:06:45

Summary:

At the Electronic Visualization Laboratory, graduate students worked with scientists using the CAVE Virtual Reality Theater to visualize their research data. Most of the applications are experiments or demonstrations to apply virtual reality techniques to computational science. An overview of the results of their collaborations is presented. Eleven projects are highlighted in this presentation.

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