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Preface

## Papers Sessions, Wednesday, August 9, 1995

- 8:00–10:00**     **SIGGRAPH 95 Keynote Address**  
1995 ACM SIGGRAPH Computer Graphics Achievement Award  
Steven A. Coons Award for Outstanding Creative Contributions to Computer Graphics
- 10:15–12:00**     **Complexity**  
*Chair: Dave Kirk*
- Geometry Compression  
*Michael Deering*
- Polygon-Assisted JPEG and MPEG Compression of Synthetic Images  
*Marc Levoy*
- QuickTime® VR – An Image-Based Approach to Virtual Environment Navigation  
*Shenchang Eric Chen*
- Plenoptic Modeling: An Image-Based Rendering System  
*Leonard McMillan, Gary Bishop*
- 1:30–3:15**     **Animation 1**  
*Chair: Andrew Witkin*
- Multi-Level Direction of Autonomous Creatures for Real-Time Virtual Environments  
*Bruce M. Blumberg, Tinsley A. Galyean*
- Realistic Modeling for Facial Animation  
*Yuencheng Lee, Demetri Terzopoulos, Keith Waters*
- Automated Learning of Muscle-Actuated Locomotion Through Control Abstraction  
*Radek Grzeszczuk, Demetri Terzopoulos*
- Animating Human Athletics  
*Jessica K. Hodgins, Wayne L. Wooten, David C. Brogan, James F. O'Brien*
- 3:30–5:15**     **Animation 2**  
*Chair: Michael Cohen*
- TicTacToon: A Paperless System for Professional 2D Animation  
*Jean-Daniel Fekete, Érick Bizouarn, Éric Courmarie, Thierry Galas, Frédéric Taillefer*
- Fourier Principles for Emotion-based Human Figure Animation  
*Munetoshi Unuma, Ken Anjyo, Ryoza Takeuchi*
- Motion Signal Processing  
*Armin Bruderlin, Lance Williams*
- Motion Warping  
*Andrew Witkin, Zoran Popović*

## Papers Sessions, Thursday, August 10, 1995

8:15–10:00

### Modeling

*Chair: Kurt Fleischer*

Automatic Reconstruction of Surfaces and Scalar Fields From 3D Scans  
*Chandrajit L. Bajaj, Fausto Bernardini, Guoliang Xu*

Creation and Rendering of Realistic Trees  
*Jason Weber, Joseph Penn*

Depicting Fire and Other Gaseous Phenomena Using Diffusion Processes  
*Jos Stam, Eugene Fiume*

Versatile and Efficient Techniques for Simulating Cloth and Other Deformable Objects  
*Pascal Volino, Martin Courchesne, Nadia Magnenat Thalmann*

10:15–12:00

### Multiresolution

*Chair: David S. Salesin*

Feature-based Control of Visibility Error: A Multi-Resolution Clustering Algorithm for Global Illumination  
*François Sillion, George Drettakis*

Live Paint: Painting With Procedural Multiscale Textures  
*Ken Perlin, Luiz Velho*

Spherical Wavelets: Efficiently Representing Functions on the Sphere  
*Peter Schröder, Wim Sweldens*

Multiresolution Analysis of Arbitrary Meshes  
*Matthias Eck, Tony DeRose, Tom Duchamp, Hugues Hoppe, Michael Lounsbery, Werner Stuetzle*

1:15–3:00

### Interactive Design

*Chair: Kellogg S. Booth*

Image Snapping  
*Michael Gleicher*

Intelligent Scissors for Image Composition  
*Eric N. Mortensen, William A. Barrett*

Interactive Physically-Based Manipulation of Discrete/Continuous Models  
*Mikako Harada, Andrew Witkin, David Baraff*

An Interactive Tool for Placing Curved Surfaces without Interpenetration  
*John M. Snyder*

3:15–5:30

### Texture Synthesis

*Chair: Andrew Glassner*

Artistic Screening  
*Victor Ostromoukhov, Roger D. Hersch*

Pyramid-Based Texture Analysis/Synthesis  
*David J. Heeger, James R. Bergen*

Cellular Texture Generation  
*Kurt Fleischer, David Laidlaw, Bena Currin, Alan Barr*

Fast and Resolution Independent Line Integral Convolution  
*Detlev Stalling, Hans-Christian Hege*

## Papers Sessions, Friday, August 11, 1995

8:15–10:00

**2D**

*Chair: Randy Pausch*

Correction of Geometric Perceptual Distortion in Pictures  
*Denis Zorin, Alan H. Barr*

AutoKey: Human Assisted Key Extraction  
*Tomoo Mitsunaga, Taku Yokoyama, Takashi Totsuka*

Stochastic Screening Dithering With Adaptive Clustering  
*Luiz Velho, Jonas Gomes*

Fast Multiresolution Image Querying  
*Charles E. Jacobs, Adam Finkelstein, David H. Salesin*

### **Implicit Surfaces**

*Chair: Jules Bloomenthal*

Animating Soft Substances with Implicit Surfaces  
*Mathieu Desbrun, Marie-Paule Gascuel*

Decorating Implicit Surfaces  
*Hans K hling Pedersen*

Implicitization using Moving Curves and Surfaces  
*Thomas W. Sederberg, Falai Chen*

Polygonization of Non-Manifold Implicit Surfaces  
*Jules Bloomenthal, Keith Ferguson*

10:15–12:00

### **Shading & Cameras**

*Chair: Holly Rushmeier*

A Realistic Camera Model for Computer Graphics  
*Craig Kolb, Pat Hanrahan, Don Mitchell*

Physically-Based Glare Effects for Digital Images  
*Greg Spencer, Peter Shirley, Kurt Zimmerman, Donald P. Greenberg*

Applications of Irradiance Tensors to the Simulation of Non-Lambertian Phenomena  
*James Arvo*

Specializing Shaders  
*Brian Guenter, Todd B. Knoblock, Erik Ruf*

### **Splines & Surfaces**

*Chair: Tony DeRose*

A Signal Processing Approach to Fair Surface Design  
*Gabriel Taubin*

Modeling Surfaces of Arbitrary Topology using Manifolds  
*Cindy M. Grimm, John F. Hughes*

A General Construction Scheme for Unit Quaternion Curves with Simple High Order Derivatives  
*Myoung-Jun Kim, Myung-Soo Kim, Sung Yong Shin*

X-Splines: A Spline Model Designed for the End-User  
*Carole Blanc, Christophe Schlick*

1:45–3:30

**Virtual Reality**

*Chair: Steven Feiner*

Rendering Interactive Holographic Images

*Mark Lucente, Tinsley A. Galyean*

An Integrated Environment to Visually Construct 3D Animations

*Enrico Gobbetti, Jean-Francis Balaguer*

Navigation and Locomotion in Virtual Worlds via Flight into Hand-Held Miniatures

*Randy Pausch, Tommy Burnette, Dan Brockway, Michael E. Weiblen*

A Frequency-Domain Analysis of Head-Motion Prediction

*Ronald Azuma, Gary Bishop*

**Sampling**

*Chair: Nelson Max*

A Frequency Based Ray Tracer

*Mark R. Bolin, Gary W. Meyer*

Optimally Combining Sampling Techniques for Monte Carlo Rendering

*Eric Veach, Leonidas J. Guibas*

Analytic Antialiasing With Prism Splines

*Michael D. McCool*

Stratified Sampling of Spherical Triangles

*James Arvo*

3:45–5:30

**Volume Visualization & Morphing**

*Chair: Maureen Stone*

Image Metamorphosis Using Snakes and Free-Form Deformations

*Seung-Yong Lee, Kyung-Yong Chwa, Sung Yong Shin, George Wolberg*

Feature-Based Volume Metamorphosis

*Apostolos Lerios, Chase D. Garfinkle, Marc Levoy*

Extracting Surfaces From Fuzzy 3D-Ultrasound Data

*Georgios Sakas, Stefan Walter*

Time-Dependent Three-Dimensional Intravascular Ultrasound

*Jed Lengyel, Donald P. Greenberg, Richard Popp*

## Panel Sessions, Wednesday, August 9, 1995

**10:15–12:00** David vs. Goliath or Mice vs. Men? Production Studio Size in the Production Industry

*Chair: Pauline Ts'o*

*Panelists: Theresa Ellis, Ralph Guggenheim, Brad Lewis, Ron Thornton*

A National Research Agenda for Virtual Reality: Report  
by the National Research Council Committee on VR R&D

*Chair: Randy Pausch*

*Panelists: Walter Aviles, Nathaniel Durlach, Warren Robinett, Michael Zyda*

**1:30–3:15** Set-Top Boxes – The Next Platform

*Chair: Jonathan Steinhart*

*Panelists: Derrick Burns, James Gosling, Steve McGeady, Rob Short*

Museums Without Walls: New Media for New Museums

*Chair: Alonzo C. Addison*

*Panelists: Douglas MacLeod, Gerald Margolis, Michael Naimark, Hans-Peter Schwartz*

**3:30–5:15** Interactive MultiMedia: A New Creative Frontier or Just a New Commodity?

*Chair: Ruth E. Iskin*

*Panelists: Mikki Halpin, Michael Nash, George Legrady, Rodney Alan Greenblat*

Integrating Interactive Graphics With Future Technologies

*Chair: Theresa Marie Rhyne*

*Panelists: Eric Gidney, Tomasz Imielinski, Pattie Maes, Ronald Vetter*

## Panel Sessions, Thursday, August 10, 1995

**8:15–10:00** Videogame Industry Overview: Technology, Markets, Content, Future

*Chair: Jane Veeder*

*Panelists: Heidi Danglemaier, Eugene P. Jarvis, John Latta, Mark Stephen Pierce*

**10:15–12:00** New Developments in Animation Production for Videogames

*Chair: Jane Veeder*

*Panelists: Paul D. Lewis, Craig Upson*

Aesthetics and Tools in the Virtual Environment

*Chair: Christian Greuel*

*Panelists: Patrice Caire, Janine Cirincione, Perry Hoberman, Michael Scroggins*

**1:15–3:00** Visualizing the Internet: Putting the User in the Driver's Seat

*Chair: Nahum D. Gershon*

*Panelists: Bran Ferren, James Foley, Joseph Hardin, Frank Kappe, William A. Ruh*

Algorithms and the Artist

*Chair: Peter Beyls*

*Panelists: Stephen Bell, Brian Evans, Jean-Pierre Hebert, Ken Musgrave, Roman Verostko*

**3:15–5:30** Performing Work Within Virtual Environments

*Chair: Henry Sowizral*

*Panelists: Ian G. Angus, Steven Bryson, Stefan Haas, Mark R. Mine, Randy Pausch*

Standardisation – Opportunity or Constraint?

*Chair: David Arnold*

*Panelists: Jack Bresenham, Ken Brodli, George S. Carson, Jan "Yon" Hardenberg, Paul van Binst, Andries van Dam*

## **Panel Sessions, Friday, August 11, 1995**

- 8:15–10:00**      Cross-Media Authoring  
*Chair: Jeff Martin*  
*Panelists: Rick Capps, Tony DeYoung, Chris Gulker, Rick Smolan, Alejandro Villarroel*
- 10:15–12:00**      Grids, Guys, and Gals: are you Oppressed by the Cartesian Coordinate System?  
*Chair: Greg Garvey*  
*Panelists: Brenda Laurel, Rob Tow, Joan Staveley, Allucquere Rosanne (Sandy) Stone*
- 1:45–3:30**        Visual Effects Technology – Do We Have Any?  
*Chair: Derek Spears*  
*Panelists: Scott Dyer, George Joblove, Charlie Gibson, Lincoln Hu*
- 3:45–5:30**        3D Graphics through the Internet – A “Shoot-Out”  
*Honorary Chair: Carl Machover*  
*Panelists: Gavin Bell, Tamara Munzner, Fabio Pettinati, Val Watson*

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