LA Chapter SIGGRAPH Presents

# A History of CGI Production: Robert Abel, Ed Catmull, Gary Demos, Sherry McKenna

### Hosted by Rhythm & Hues Tuesday April 13, 1999

## The Program
6:30-7:30 Social Hour
7:30-9:00 Program

## The Location
UCLA Freud Playhouse Theater
MacGowan Hall UCLA Campus,
Westwood

## Directions
From the 405, exit Sunset Blvd
East. Right at Hilgard. Right at
Charring Cross.

## Parking
Parking in Structure 3 ($5 per car).
Follow pedestrian signs to Freud
Playhouse or MacGowan Hall. 20

## Fees/Registration
This event is free to L.A. Chapter
SIGGRAPH members and $10 for
non-members. New members who
sign up on-site and pay the $25
annual membership fee (checks or
cash only) do not have to pay the
$10 registration fee. Members only
will be given priority entrance from
6:30-7:00 PM. After 7:00 PM it's
first come first served. We strongly
urge that members arrive early to
assure their admittance.

### Special thanks to Jacki Morie, Andy Kopra, Joan Collins, John Nelson & Di Piepol

## The Event

Twenty years from now, there will be history books documenting the mercurial field of digital animation. When the scholar or dilettante of the future curls up with that book they will learn of some early seminal players who in part developed the infrastructure of what is today's Computer Generated Imagery (CGI) production community.

On April 13th, L.A. Chapter SIGGRAPH is honored to present an exceptional panel featuring several of these history-makers. Robert Abel, Ed Catmull and Gary Demos will speak on the History of CGI Production with special guest moderator, Sherry McKenna.

In the 60's and 70's, the roots of computer animation grew via clusters of individuals working in academic and military research. Technical hurdles were many: no off-the-shelf software packages, a painful leap had to be made from vector to raster graphics, massive render times per frame, images were shot directly off monitors as no film recorder technology existed.

These unique images began to permeate our world of pop culture in broadcast and film. What techniques were used to transfer these strange new images onto the big screen? How did the collective endeavors of a small group of individuals grow to be an actual industry now employing thousands of artists, technicians and engineers? Perhaps you have heard a few myths of the "early days" or perhaps you were there as a participant.

Join L.A. Chapter SIGGRAPH on April 13th to hear our stellar panel and get the "big picture" on how CGI production grew to be the "other wild west" of the 20th century.

### ROBERT ABEL

*President and Founder of Robert Abel + Associates.* Robert Abel became interested in Computer Graphics even before he understood the phrase or its implications. In his own words: "I just evolved into it". Abel, who started as an apprentice with John Whitney in the late 50's, used a computer to control the complex motion of flat, analog, pieces of art, that would be re-photographed dozens of times to create a layered gestalt. The results of this new motion control art caused Con Pederson, Richard Taylor, Ray Feeney, John Hughes, Doug Trumbull and several other pioneers, using their own code, to experiment with computer based motion control cameras to create a new palette of imagery. Abel's emphasis, through Robert Abel and Assocs., (formed in 1971), was based on the harmonious creativity of groups of people with disparate talents, who saw the power of the image as the end reward. In 1979, a turning point occurred when he and Bill Kovacs, as well as Pederson and Hughes started to create vector com-

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puter graphics with an E&S PS2 flight simulator. This led to the infamous "*Blackhole*" trailer for Disney (a project spearheaded by John Hughes), and to the legendary "*TRON*". At the same time, Kovacs, Richard Hollander, Pederson, and several others were writing their first real 3D computer graphics code for a 2 minute theatrical short, "*High Fidelity*" (1982), designed and directed by Randy Roberts. The film and its code would lead to "*Sexy Robot*", and propel RA & Assoc. into a fully bona-fide CG company. Abel then set-up a software company, Abel Image Research, to sell CGI code to the public-- a first, (which was later sold to Wavefront Technologies). Abel continued throughout most of the 80s, and even into the mid 90s, to push the CG envelope, as he also became involved in Interactive Multimedia. One of those projects, the Education-based "*Columbus*", is permanently installed in the Library of Congress. His awards include 33 Clios, a Golden Globe, 2 Emmies, and awards from around the world. But he believes that his greatest accomplishment was the "nurturing of a family of creative giants" who would constantly push the CG envelope that would define the medium's true potential, collecting 2 Tech Oscars along the way. Today, Abel is a traveling lecturer, runs his own consulting firm, QR Cyberspace, and enjoys the role of Visiting Professor of Design at UCLA, his first alma mater, where he received degrees in Design and Film.

### EDWIN E. CATMULL,

*Executive Vice President and Chief Technical Officer Office of the President, Pixar.* Dr. Catmull is a co-founder of Pixar and serves as the company's vice president and chief technical officer of Pixar since the incorporation of the

company. In 1979 Dr. Catmull brought his high-technology expertise to the film industry as vice president of the Computer Division of Lucasfilm, Ltd. During that time, Dr. Catmull managed four development efforts in the area of computer graphics, video editing, video games and digital audio. He was also a key developer of RenderMan AE, the Academy Award-winning program that creates realistic digital effects for computer graphics and animation. Dr. Catmull was awarded the Scientific and Technical Engineering Award from The Academy of Motion Picture Arts and Sciences for his work. He also won the Coons Award, which is the highest achievement in computer graphics, for his lifetime contributions. Dr. Catmull is a member of The Academy of Motion Picture Arts and Sciences and the Science and Technical Awards Committee. Dr. Catmull earned his Ph.D. in computer science in 1974 from the University of Utah.

### GARY DEMOS

*DemoGraFX, President, CEO, and Director.* Gary Demos joined Evans and Sutherland in 1973 where he worked on both hardware and software development. Mr. Demos also developed the first random-access (DRAM-based) frame buffer at Evans and Sutherland under the supervision of Ivan Sutherland.

In 1975, Mr. Demos joined Information International, Inc., where he was the Senior Technical Director of hardware and software for computer-generated filmmaking. Mr. Demos supervised development of precision CRT film recording and scanning hardware, and architected the first Digital Film Printer, pioneering a new branch of film production technology. The Information International Digital Film Printer was

subsequently used at Digital Productions, and with recent upgrades, it is currently in use at Pacific Title Digital.

In 1981, Mr. Demos co-founded Digital Productions and served as the Chief Technical Officer, Senior Vice President and Director. There he supervised interfacing of his Information International film recorder/scanner to a Cray High Speed (100 Mbyte/sec) channel (Cray XMP). Digital Productions used this technology to produce photo-realistic images containing millions of polygons and pixels for advertising, films for theme parks, and several feature films including: "*The Last Starfighter*", "*2010*", "*Ice Pirates*", and "*Labyrinth*".

Along with his colleagues, Mr. Demos received the Academy of Motion Picture Arts and Sciences Scientific and Engineering Award for the "Photo Realistic Simulation of Motion Picture Photography by Means of Computer Generated Images" in 1984 and for "*The Last Starfighter*" and "*2010*". He also received an Academy Scientific and Engineering Award in 1995 for "Pioneering Work in Digital Film Scanning", and an Academy Technical Achievement Award in 1996 for "Pioneering Work in Digital Film Compositing Systems".

In 1986, he co-founded Whitney/Demos Productions. He lead a software development team for the Thinking Machine's Connection Machine II, which he selected as the company's main computing engine.

In July of 1988, Mr. Demos founded DemoGraFX, where he serves as President, CEO, and Director. Most notably, he has been a prominent strategist in US and International

# Boot Camp Revisted

Magazine, moderated the panel on interviewing. The other panelists were Kim Delson, Taylor Design; Pamela Focht, Walt Disney Feature Animation; and Debbe Goldstein, Dreamworks.

"What we wish we knew when we were new" was discussed by the Real Deal panel moderated by freelance writer Debra Kaufman. Panelists from Dream Quest Images shared what they liked least about their jobs (long hours) and what they liked best (camaraderie and problem solving and creativity). Thanks to Jamie Toscas for hand-picking the lively panelists who were Dan Deleeuw, Blaine Kennison, John Murrah, Kristina Reed, Kee Suong and Hoyt Yeatman.

Glenn Campbell showed several demo reels that he designed especially for the Boot Camp during Demo Reels 101. The Cee Stoodint demo reel showed what too many demo reels do--loud music, lens flares, and flying spaceships. He also showed a reel that he put together in a weekend, which displayed the various skills needed for someone in his company- modeling, texture mapping, lighting, animation and compositing. He used a backdrop still taken with a Snappy from a frame of Casablanca and composited his duck models over it. He then animated his simple ducks so they walked with an attitude. Many attendees who saw his presentation said they now know what to do to make their reels better.

The demo reel panel was a favorite of the attendees. Moderator Bill Kroyer of Rhythm and Hues and panelists Geoff Brooks, The Aegis Group; Glenn Campbell, Area 51; Tim Miller, Blur; Doug Nichols, Walt Disney Feature Animation; Beth Sasseen, ILM

and Barry Weiss, Sony Pictures Imageworks shared what they wanted to see on demo reels from applicants. After the audience saw the demo reel samples, many attendees realized they had to redo theirs.

Attendees also visited a showy exhibit hall designed by Blaze Callahan, exhibition coordinator. He did an incredible job of coordinating 18 exhibitors which included Academy of Art College, Animation Institute of Los Angeles, Art Institutes International, Cal State Long Beach, Creative Assets, DH Institute of Media Art, Glendale Community College, Gnomon , ITT Technical Institute, LA 411 Publishing, Learning Tree University, Otis College of Art and Design, Santa Monica College, Savannah College of Art and Design, School of Visual Arts, Sheridan College, UCLA Extension, and Van Arts.

At the reception following the Career Boot Camp, an attendee from

Pittsburgh stated, "I learned more today than I did in 2 years at school. Thanks so much." Glenn Campbell gladly shared more of his expertise and advice with a crowd of eager attendees late into the night.

We would like to thank our sponsors: The Walt Disney Company, Sony Pictures Imageworks, Unite LA, Avid/Softimage, and Cinesite for co-hosting the Career Boot Camp. Special thanks to the Economic Alliance of the San Fernando Valley for their help and support and to the Career Boot Committee, Women in Animation, and all the other volunteers who helped make the event happen.

If you want to help with future SIGGRAPH events or meetings, please email us at Los_Angeles_Chapter@siggraph.org or phone us at 310-288-1148 or contact Fran Zandonella, Volunteer Chair at FranZ@acm.org.

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# A History of CGI Production

Advanced Television (HDTV) standards since 1989, and is recognized for his pioneering and innovative technological contributions for his layered compression system.

**SHERRY MCKENNA**
*Chief Executive Officer, Oddworld Inhabitants*. A pioneer in computer Generated Images, McKenna has 19 years experience producing special effects for feature films, motion base ride films and commercials. Prior to establishing Oddworld Inhabitants with partner Lorne Lanning, McKenna was Vice President and Executive Producer of Rhythm & Hues, Show Producer for Universal Studios Florida, and Vice President Executive Producer for Robert Abel & Assoc. Her work

includes the creation of the Hanna Barbara and *Back to the Future* films for Universal Studios Florida, *"The Last Starfighter"*, *"2010"*, *"Seafari"*, Mick Jagger's *"Hard Woman"* video, as well as numerous commercials.

McKenna's awards include: 30 Clios, 25 International Film & Television Awards, and 20 International Broadcast and Addy Awards.

As co-founder and Chief Executive Officer of Oddworld Inhabitants, Sherry McKenna is currently responsible for the company's strategic and production planning. Currently the first two Oddworld products have received over 40 awards and sold nearly 3 million units worldwide.