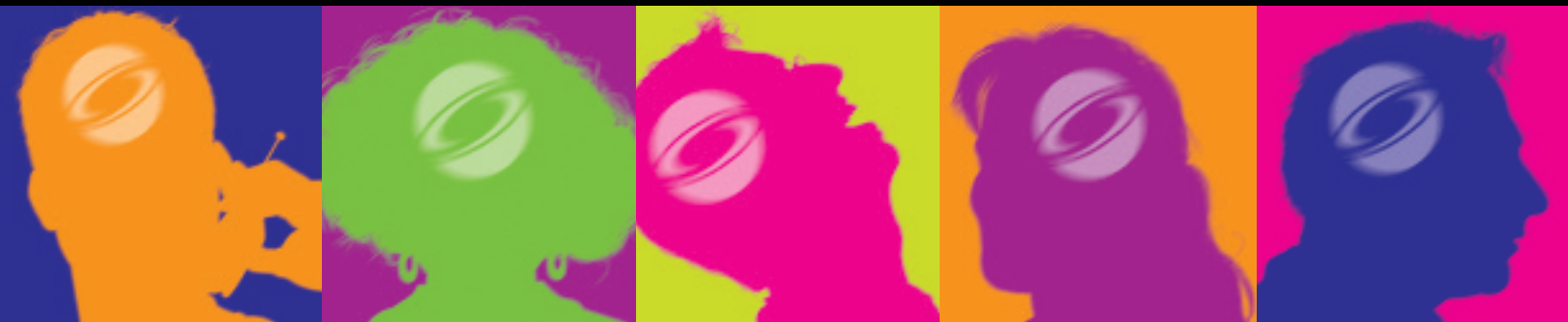# SIGGRAPH2005

The 32nd International Conference on Computer Graphics and Interactive Techniques

www.siggraph.org/s2005

Conference 31 July-4 August 2005 **Exhibition 2-4 August 2005** **Los Angeles Convention Center**

advance program

contents

SIGGRAPH2005

exceptional return on investment

In exchange for a very reasonable investment, SIGGRAPH 2005 delivers:

Industry Superstars

SIGGRAPH 2005 presenters are visionary creators and practitioners who invent new approaches, reveal hidden synergies, and create blockbusters. Where else can you hear George Lucas' perspective on digital cinema, storytelling, and life beyond "Star Wars?"

Exclusive Educational Sessions

More than 300 presentations on leading-edge technologies and techniques. These sessions will not be offered again, anywhere in the world. They are available only at SIGGRAPH 2005.

Powerful Products & Services

More than 225 exhibitors from five continents in the largest international display of next-generation tools required for world-class achievement in computer graphics and interactive techniques. This is your only opportunity to meet these companies and test their systems in person.

Versatile Offerings

Customize your selection of programs and events to get the SIGGRAPH 2005 experience that's right for you. No other conference offers this wide-ranging mix of science, art, education, training, film and video, web systems, and technology.

If your time is limited, select the One Day registration option and choose the day that offers the sessions you need (see page 2). If you can schedule a few or several days at SIGGRAPH 2005, consider Conference Select for an even better value. Or maximize your ROI and select Full Conference registration: access to everything all day all week for one very reasonable fee.

Register Early!

For the best discounts on all registration categories, register online before 18 June.

www.siggraph.org/s2005

conference at a glance

Schedule is subject to change. Check the SIGGRAPH 2005 web site often for updated information for this year's programs and events.

SIGGRAPH 2005 Conference Registration Categories:
- ● Full Conference
- ◉ Conference Select
- ○ Exhibits Plus

		SAT, 30 JULY	SUN, 31 JULY	MON, 1 AUG	TUES, 2 AUG	WED, 3 AUG	THU, 4 AUG
	Registration	6 – 8 pm	8 am – 6 pm	8 am – 6 pm	8 am – 4 pm	8 am – 4 pm	8 am – 2 pm
	Merchandise Pickup	6 – 8 pm	8 am – 6 pm	8 am – 6 pm	8 am – 4 pm	8 am – 4 pm	8 am – 2 pm
	SIGGRAPH Store	6 – 8 pm	8 am – 6 pm	8 am – 6 pm	8 am – 6 pm	8 am – 6 pm	8 am – 6 pm
●◉○	Exhibition				10 am – 6 pm	10 am – 6 pm	10 am – 5 pm
	PRESENTATIONS						
●	Courses		8:30 am – 5:30 pm	8:30 am – 5:30 pm	8:30 am – 5:30 pm	8:30 am – 5:30 pm	
●	Papers			8:30 am – 5:30 pm	8:30 am – 5:30 pm	8:30 am – 5:30 pm	8:30 am – 5:30 pm
●	Panels			8:30 – 10:15 am & 3:45 – 5:30 pm	10:30 am – 12:15 pm & 3:45 – 5:30 pm	10:30 am – 12:15 pm & 3:45 – 5:30 pm	8:30 – 10:15 am & 1:45 – 3:30 pm
●◉	Sketches			10:30 am – 5:30 pm	8:30 am – 5:30 pm	8:30 am – 5:30 pm	8:30 am – 5:30 pm
●◉○	Posters	8:30 am – 5:30 pm	3:45 – 5:30 pm	8:30 am – 5:30 pm	8:30 am – 5:30 pm	8:30 am – noon
●◉	Web Program					8:30 am – 5:30 pm	8:30 am – 5:30 pm
●◉	Educators Program					8 am – 5:45 pm	8 am – 5:30 pm
●◉○	*Keynote Address/Awards			1:15 – 3:15 pm			
●◉	Special Sessions						
	Games: Beyond the Joystick			6 – 8 pm			
	From the Earth to Infinity				3:45 – 5:45 pm		
	A Star Wars Retrospective				6 – 8 pm		
	Legacy of Disney Animation					10:30 am – 12:30 pm	
	Extreme Fashion					5:30 – 7:30 pm	
	"The Polar Express"						11:30 am – 1:15 pm
●◉○	Special Events						
	Fast-Forward Papers Preview		6 – 8 pm				
	ACM Student Research Competition Presentations				3:45 – 5:30 pm		
	Cyber Fashion Show					7:30 – 9:30 pm	
●◉○	Exhibitor Tech Talks				10 am – 6 pm	10 am – 6 pm	10 am – 5 pm
	EXPERIENCES						
●◉○	Art Gallery		1 – 6 pm	9 am – 6 pm	9 am – 6 pm	9 am – 6 pm	9 am – 5 pm
	Computer Animation Festival						
●	**Electronic Theater			7 – 9 pm	7 – 9 pm	7 – 9 pm	
●◉	**Electronic Theater Matinée				1:30 – 3:30 pm	1:30 – 3:30 pm	
●◉○	Animation Theaters		1 – 6 pm	9 am – 6 pm	9 am – 6 pm	9 am – 6 pm	9 am – 5 pm
●◉○	Emerging Technologies		1 – 6 pm	9 am – 6 pm	9 am – 6 pm	9 am – 6 pm	9 am – 5 pm
●◉○	Guerilla Studio		1 – 6 pm	9 am – 6 pm	9 am – 6 pm	9 am – 6 pm	9 am – 5 pm
●	Reception					8 – 10 pm	
	SERVICES						
●◉○	Birds of a Feather	Throughout the week					
●◉○	Get Involved				5 – 6:30 pm		
●◉○	International Resources	6 – 8 pm	8 am – 6 pm	8 am – 6 pm	8 am – 6 pm	8 am – 6 pm	8 am – 5 pm
●◉○	Job Fair				10 am – 4 pm	10 am – 4 pm	
●◉○	Pathfinders	6 – 8 pm	8 am – 6 pm	8 am – 6 pm	8 am – 6 pm	8 am – 6 pm	8 am – 2 pm

* Conference Select and Exhibits Plus attendees will have access to the Keynote Address via closed circuit TV.

** The Electronic Theater includes a pre-show event, which begins 20 minutes before showtime: a live graphic performance by J. Walt Adamczyk specially created for SIGGRAPH 2005. For more info: johnadamczyk.com/performance.html

presentations

●

Courses

Sunday – Wednesday, 31 July – 3 August

Learn how to master the latest digital
theories and expert practices in the
art and science of computer graphics.
In quick tutorials, half-day sessions, and
full-day courses, leading academic and
industry specialists teach topics that
deepen understanding, inspire exploration,
and immediately enhance real-world skills.
These courses are only available at
SIGGRAPH 2005. Complete list of
Courses, pages 15-22.

**New this year: A special selection of courses that
explore innovation and practice in open-source
computer graphics.**

●

Papers

Monday – Thursday, 1 – 4 August

Experience the highest standard of
research excellence. In SIGGRAPH 2005
Papers, internationally renowned research-
ers challenge conventional wisdom and
establish new paradigms for future inquiry.
No other conference presents the full
range of the world's most significant
achievements in computer graphics
and interactive techniques. Complete
list of Papers, pages 23-32.

●

Panels

Monday – Thursday, 1 - 4 August

Agree or disagree with outspoken advo-
cates on every side of controversies that
affect our digital future. Panelists discuss,
confer with, and debate each other in a
free-flowing format that generates con-
sensus, controversy, confusion, and clarity
– sometimes simultaneously. Complete list
of Panels, pages 33-36.

●◉

Sketches

Monday – Thursday, 1 – 4 August

Review the latest work in every aspect
of computer graphics and interactive
techniques: art, cinema, advertising,
design, science, and engineering.
Following each sketch presentation,
authors answer questions and discuss
future implications of their work. Speakers
and topics will be available in June:
www.siggraph.org/s2005

●◉

Educators Program

Wednesday – Thursday, 3 – 4 August

Explore the future of teaching and learn-
ing: virtual instructors, toys as teaching
tools, individual versus community learning,
and how computers can make education
more engaging. In papers, panels, forums,
and QuickTakes, educators and students
share ideas, analysis, and discussion.
Detailed information on the Educators
Program: www.siggraph.org/s2005

**New this year: The Incubator, a demo space
for interactive educational products.**

●◉○

Posters

Sunday – Thursday, 31 July – 4 August

Encounter intriguing early results,
speculative ideas, and the people who
generated them. Posters are displayed
throughout the conference week. In
scheduled sessions, poster presenters
discuss their work and answer questions.
Presenters and topics will be available
in July: www.siggraph.org/s2005

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Exhibitor Tech Talks

Tuesday – Thursday, 2 – 4 August

Interact with SIGGRAPH 2005 exhibitors
as they explain and demonstrate break-
throughs that accelerate digital processes,
simplify content creation, improve training,
strengthen security systems, and much
more. After the sessions, schedule one-
on-one discussions with the industry's
leading companies. Preliminary list of
Exhibitor Tech Talks, page 10.

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Keynote Address and Awards

Monday, 1 August, 1:15 – 3:15 pm

World-renowned director, producer, and
screenwriter George Lucas presents the
SIGGRAPH 2005 keynote address:

"George Lucas: A Keynote Q&A
With the Father of Digital Cinema"

Immediately before the keynote address,
ACM SIGGRAPH presents three awards:
the Computer Graphics Achievement
Award, the Steven Anson Coons Award
for Outstanding Creative Contributions
to Computer Graphics, and the
Significant New Researcher Award.

presentations

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Web Program
wednesday – Thursday, 3 – 4 August

Understand how graphics and interaction define, extend, and optimize online environments. Web Program sessions focus on standards, technologies, rich media, usability, accessibility, art, design, visualization, and internationalization. Speakers and topics: www.siggraph.org/s2005

New this year: Refereed technical presentations.

●◉○

Special Events
Fast-Forward Papers Preview
Sunday, 31 July, 6 – 8 pm

Snapshot overviews of the paper sessions, in which authors give short summaries of their work. It's a fast, fun, and provocative preview of the latest and most significant findings in computer graphics and interactive techniques.

ACM Student Research Competition Presentations
Tuesday, 2 August, 3:45 – 5:30 pm

Winners of the ACM Student Research Competition at SIGGRAPH 2005 present brief summaries of the work they are displaying in the Posters program.

Cyber Fashion Show 2005
Wednesday, 3 August, 7:30 – 9:30 pm

The annual CyberFashion Show will again be hosted by Psymbiote, the technology-clad cyborg who educates, elucidates, and entertains as she parades models down the runway garbed in the latest functional tech gear and aesthetic cyber wear. The show features a variety of wearable computers, head-mounted displays, smart clothes, luminous clothing and accessories, futuristic club wear, and CAD/CAM jewelry and bodywear. The wide-ranging selection of far-out products, innovative prototypes, and unique creations projects us into future realms of body-technology assimilation.

Organizer
Isa Gordon
Psymbiote

●◉

Special Sessions
This year's slate of Special Sessions offers a glimpse into the past, present, and future of digital technologies. Industry experts offer enlightening insights into the art, science, trends, and breakthrough concepts of the current and future state of computer graphics and interactive techniques.

Jump! Shout! Dance! Sing!
An Interactive Conversation About Games, Game Art, and Play That Goes Way Beyond the Joystick
Monday, 1 August, 6 – 8 pm

Whether you dance in front of it, sing into it, or jump on it, there's a new dimension in the gaming world that goes way beyond 3D. With new controllers and a whole new generation of game boxes enabling ever more beautiful images, this session brings together art directors, game designers, and controller builders for an enlightening, entertaining and possibly hilarious look into an alternate future of gaming.

Moderator
Alex Pham
Los Angeles Times

Panelists
Henry LaBounta
Electronic Arts Canada

Greg LoPiccolo
Harmonix Music Systems

Richard Marks
Sony Computer Entertainment America

Michael McHale
Konami Digital Entertainment

Fred Swan
Logitech, Inc.

From the Earth to Infinity:
Scientists From Caltech's Jet Propulsion Laboratory Reveal Secrets of the Universe Through Remarkable Images of Mars, Saturn, Earth, and the Deepest Reaches of Space
Tuesday, 2 August, 3:45 – 5:45 pm

Leading scientists at NASA/JPL give us a rare look at our universe: the latest images from Mars, explorations of Saturn and Titan, a trip back in time to shortly after the birth of the universe, and new perspectives of our own planet.

Moderator and Organizer
Daniel McCleese
Jet Propulsion Laboratory

Panelists
Ronald Blom
Eric De Jong
Torrence Johnson
Michael Werner
Jet Propulsion Laboratory

A Star Wars Retrospective From Industrial Light & Magic:
Environments, Space Battles, and the Characters Who Fought Them From 1977 to 2005
Tuesday, 2 August, 6 – 8 pm

In 1977, George Lucas' "Star Wars" opened our eyes and blasted our senses with brave new worlds, remarkable characters, and operatic battles. In the five films that followed, these images continued to make cinematic history, taking us to places we never thought possible and blazing the trail for the visual effects and animation industry. In this presentation, Dennis Muren, John Knoll, Roger Guyett, and Rob Coleman walk us through all six installments in the series, comparing the techniques that ILM employed over the years to bring these historical environments, characters, and space battles to the screen.

Organizer
Kate Shaw
Industrial Light & Magic

Moderator
Don Shay
Cinefex

Panelists
Rob Coleman
Roger Guyett
John Knoll
Dennis Muren
Industrial Light & Magic

The Legacy of Disney Animation:
A Journey to the Past, Present, and Future Through the Eyes of Disney Animators, Directors, Designers, and Storytellers
Wednesday, 3 August, 10:30 am – 12:30 pm

Join Walt Disney Feature Animation's top filmmakers for a look at the studio's 70-year legacy of storytelling, animation, and innovation. Featuring clips from the Disney vaults, along with footage from current and upcoming projects, the filmmakers demonstrate how color, animation, art direction, and storytelling influence contemporary animation techniques as the Disney legacy is passed on to a new generation of artists.

Moderator and Organizer
Steve R. Goldberg
Walt Disney Feature Animation

Panelists
Eamonn Butler
Dan Cooper
Mark Dindal
Randy Fullmer
Ian Gooding
Glen Keane
Walt Disney Feature Animation

Extreme Fashion: Designers, Artists, and Technologists Present a Glimpse Into the Place Where High Fashion Collides With High Technology
Wednesday, 3 August, 5:30 – 7:30 pm
The Fourth Annual Cyber Fashion Show follows immediately after the session.

Incorporating computer graphics, science, and technology into the fashion industry has transformed computer-enhanced garments, textiles, and wearables from fantasy to reality. This session brings together high-end fashion designers, textile producers, a garment manufacturer, artists, and scientists for some fascinating information and a really cool show and tell.

Moderator
Margaret Orth
International Fashion Machines

Panelists
Elise Co
mintymonkey

Katherine Moriwaki
Trinity College Dublin

Thad E. Starner
Georgia Institute of Technology

Jenny Tillotson
Central Saint Martins College of Art & Design

"The Polar Express":
Artists and Technicians Reveal How They Transformed a 3D Train Ride Into a 3D Stereoscopic Adventure
Thursday, 4 August, 11:30 am – 1:15 pm

When "The Polar Express" left the station and exploded onto movie screens, first in 3D and then in Stereoscopic 3D, we saw that the art of moviemaking had once again been forever transformed. In this Special Session at the IMAX Theater at the California Science Center, visual effects supervisors, artists, and technologists show how they transformed Robert Zemeckis' painterly film into an exciting IMAX escapade. This unique session features footage from "The Polar Express" and some very early glimpses at a Sony Pictures Imageworks project still in production, both in true 70mm stereoscopic IMAX.

Organizer
Sande Scoredos
Sony Pictures Imageworks

Moderator
Rob Engle
Sony Pictures Imageworks

Panelists
Rob Bredow
Sony Pictures Imageworks

Hugh Murray
IMAX Corporation

Important Note: Due to limited seating, tickets are required for entrance to this Special Session at the California Science Center IMAX Theater. Tickets are distributed to Full Conference and Conference Select registrants who board the shuttle buses. There is no additional charge for tickets, but they are distributed on a first-come, first-served basis. Attendance Is limited to the 480-seat capacity of the IMAX Theater.

experiences

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Art Gallery: Threading Time
Sunday – Thursday, 31 July – 4 August

Observe the real-time evolution of art history in 21st-century work that traces threads through time and space, figurative and abstract, linear and non-linear, moving and still. The Art Gallery presents 2D, 3D, and screen-based work that examines how the use of computer graphics relates to the form and content of the artwork. For the first time ever, see the Electronic Theater storyboards on display in the Art Gallery. For detailed information on the Art Gallery: Threading Time, visit: www.siggraph.org/s2005

Computer Animation Festival

●◉○

Animation Theater
Sunday – Thursday, 31 July – 4 August

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Electronic Theater
Monday – Wednesday, 1 – 3 August

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Electronic Theater Matinée
Tuesday – Wednesday, 2 – 3 August

Experience the year's finest achievements in animation, visualization, simulation, visual effects, and technical imagery.

The Computer Animation Festival presents selected works in the Electronic Theater (matinée and evening shows) and the Animation Theater (throughout the week). The Electronic Theater also includes a pre-show event, which begins 20 minutes before showtime: a live graphic perform-ance by J. Walt Adamczyk entitled "Autocosm: Gardens of Thuban," specially created for SIGGRAPH 2005. For more information about J. Walt Adamczyk, visit: johnadamczyk.com/performance.html

For a complete list of the Computer Animation Festival accepted work, visit: www.siggraph.org/s2005

New this year:
projecting in high-definition (1080i and 1080p).

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Full-Dome Animation Theater

Immerse yourself in the world's best full-dome animations, from DomeFest 2005 (www.domefest.com). The animations, produced by students, institutions, and full-dome professionals, are screened daily on a 9-meter-diameter digital dome assembled especially for SIGGRAPH 2005.

Full-dome video is a rapidly growing medium, with over 125 immersive displays deployed worldwide in planetariums and special-venue theaters. Freed from the "tyranny of the frame," artists transport viewers into fully immersive, mind-bending environments and alternate worlds as they explore storytelling techniques for this new medium.

●◉○

Emerging Technologies
Sunday – Thursday, 31 July – 4 August

Interact with digital experiences that move beyond digital tradition, blur the bound-aries between art and science, and transform social assumptions. Emerging Technologies presents work from many sub-disciplines of interactive techniques, with a special emphasis on projects that explore science, high-resolution digital-cinema technologies, and interactive art-science narrative. For detailed information on the Emerging Technologies exhibits, visit: www.siggraph.org/s2005

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Access Grid

At SIGGRAPH 2005, the Access Grid supports a global collaborative perform-ance piece, international art panels, and multi-site community interaction. This emerging, scalable teleconferencing technology enables interaction between individual desktops, 3,000-person theaters, and everything in between.The grid's 1,500 users throughout the world interact through thousands of nodes, designed spaces that contain the high-end audio and visual technology needed to provide a high-quality, compelling user experience. The nodes are also used as a research environment for development of distrib-uted data and visualization corridors, and to study issues related to collaborative work in distributed environments. The SIGGRAPH 2005 node includes three large screens in a dedicated Access Grid space. For a detailed Access Grid Schedule visit: www.siggraph.org/s2005.
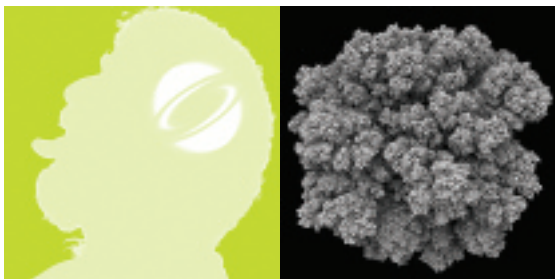
services

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Guerilla Studio
Sunday – Thursday, 31 July – 4 August

The Guerilla Studio is an integrated network of machines for realizing ideas in 2D, 3D, 4D, and n-dimensional media, a working computer graphics laboratory for explorations in fine art, animation, science, and other CG disciplines. It features high-end computer workstations, a multitude of software (featuring 2D and 3D design), and print technologies. Artists, scientists, and engineers can walk in, create, and realize their creations right in the lab.

The Guerilla Studio also features artists in residence, who instruct attendees on technique and explore the possibilities of digital art. And the Guerilla Studio will co-host the annual CyberFashion Show with Special Sessions.

●

Reception
Wednesday, 3 August, 8 – 10 pm

Mingle with the movers and synergize with the shakers as the international computer graphics community gathers for its biggest social event of the year. Bring your business cards. SIGGRAPH 2005 provides food, beverages, and a location designed for social networking.

The Center at Cathedral Plaza
555 West Temple Street
Downtown Los Angeles

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Birds of a Feather

Attendees who want to get together with others who share their interests, goals, technologies, environments, or backgrounds are invited to organize and/or attend a Birds of a Feather event. Questions? Review the Birds of a Feather FAQs at: www.siggraph.org/s2005

To schedule a Birds of a Feather session prior to arrival, fill out the Meeting Space Request Form online.

●○○

Get Involved
Tuesday, 2 August, 5 – 6:30 pm

Discover how you can contribute your expertise and energy to SIGGRAPH 2006 and SIGGRAPH 2007. All attendees, exhibitors, and presenters are invited. All questions and comments are welcome.

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International Resources

Connect with colleagues and friends from your region or country. The International Center offers informal translation services and space for meetings, talks, and demonstrations. See page 11 for the International Committee listing.

New this year: Bilingual guided tours of the Art Gallery and Emerging Technologies.

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Job Fair
Tuesday – Wednesday,
2 – 3 August, 10 am – 4 pm

The Art Institutes are once again sponsoring the ACM SIGGRAPH 2005 Job Fair for leading companies in all related ACM SIGGRAPH fields to discuss employment opportunities with thousands of SIGGRAPH 2005 attendees in a relaxed, informal setting.

All registered SIGGRAPH 2005 attendees are welcome to attend the Job Fair at no additional cost. For details, see page 38.

Sponsored by:

Ai The Art Institutes
America's Leader in Creative Education

exhibition

Experience all the tools that empower the fundamental breakthroughs and amazing achievements discussed and displayed at SIGGRAPH 2005.

Meet the experts who create the hardware and software that you'll be using tomorrow.

Test drive the world's most advanced systems in real time.

Ask the questions that are important to your specific applications. And get the answers you need to make critical purchasing decisions.

The latest, most complete list of SIGGRAPH 2005 exhibitors: www.siggraph.org/s2005

For a complete directory of the organizations that supply hardware, software, and services to the computer graphics industry, visit: www.siggraph.org/industry

Reserve Your Space Now!

To purchase exhibition space for SIGGRAPH 2005, call or write:

SIGGRAPH 2005 Exhibition Management
Hall-Erickson, Inc.
98 East Naperville Road
Westmont, Illinois 60559 USA

+1.630.434.7779
+1.630.434.1216 fax
halleric@siggraph.org

www.siggraph.org/industry
For a complete directory of the organizations that supply hardware, software, and
systems to the computer graphics industry.

exhibitors

As of 15 April 2005

@Last Software, Inc. - SketchUp
3D Pipeline Simulation Corporation
3Dconnexion
3Q/3dMD
A K Peters, Ltd.
Academy of Art University
Accom, Inc.
Act-3D
Adobe Systems, Inc.
AGEIA Technologies
AJA Video
Akasaka NaturalVision Research Center,
    National Institute of Information and
    Communications Technology, Japan
Alias Systems Corp.
AMAX Engineering Corporation
AMD
American Paper Optics, Inc.
Anark Corporation
Andersson Technologies LLC
Animation Magazine Inc.
Anthro Corporation
Antics Technologies Ltd.
APACE Systems Corp.
Apple Computer, Inc.
ArchVision, Inc.
ARRI Group
Artbeats, Inc.
ASC-American Cinematographer
ATI Technologies Inc.
auto.des.sys, Inc.
B&H Photo-Video-Pro Audio Corp.
Ballistic Media Pty. Ltd.
Barco
Baydel DataFrameworks
Bell Computer
Bionatics
Bitboys
BiTMICRO Networks, Inc.
BlackBall, Inc.
Blue Sky Studios, Inc.
BlueArc Corporation
BOXX Technologies, Inc.
Canadian Film Centre
Chaos Group
Charles River Media
Cogswell College
Collins College
Computer Graphics World
Course PTR
CRC Press, LLC, a Member
    of the Taylor & Francis Group
Curious Labs, Inc.
Curious Software Company Ltd.
Cycling '74

da Vinci Systems, LLC
DataDirect Networks Inc.
Digital-Tutors
Discreet
DMP Inc.
Doremi Labs, Inc.
DreamWorks LLC
DVS GmbH
eDoc Publish Inc.
Electronic Arts
e-on software, inc.
Ex'pression Center for New Media
eyeon Software Inc.
Falanx Microsystems AS
Focal Press
GenArts
Genemation
Geometry Systems Inc.
Gnomon School of Visual Effects
Grande Vitesse Systems
Hash, Inc.
Hewlett-Packard Company
Hollywood Creative Directory, Inc.
Hypercosm, LLC
IdN Magazine
IEEE Computer Society
Image Metrics PLC
IMAGICA Corp.
Immersion Corporation
Immersive Media Company
Industrial Light & Magic
INRIA
InSpeck Inc.
IntegrityWare, Inc.
Isilon Systems, Inc.
JourneyEd.com
Konica Minolta Holdings, Inc.
Lasergraphics, Inc.
Maximum Throughput Inc.
MAXON Computer Inc.
Measurand Inc.
Midway Home Entertainment Inc.
Millimeter/Video Systems
Mitsue-Links Co., Ltd.
Morgan Kaufmann Publishers
Motion Analysis Corporation
Mt. Sierra College
NaturalMotion Ltd.
NEC -Mitsubishi Electronics Display
New Zealand Trade and Enterprise
NewTek, Inc.
Nexstar
NVIDIA Corporation
Okino Computer Graphics, Inc.
Opticality

Orad Hi Tec Systems Ltd.
P.I. Engineering, Inc.
Panoscan Inc.
Peachpit Press
Photron USA, Inc.
Pipelinefx LLC
Pixar Animation Studios
Pixologic, Inc.
PNY Technologies, Inc.
Point Grey Research Inc.
Polhemus
Radical Entertainment Inc.
Re:VisionFX
REALVIZ S.A.
RES Media Group
ResPower, Inc.
Rhythm & Hues Studios
Ringling School of Art and Design
Savannah College of Art and Design
SensAble Technologies, Inc.
SGI
Side Effects Software
Smooth-On
Softimage Co.
Solid Modeling Solutions
SolidWorks Corporation
Sony Pictures Imageworks Inc.
Speedsix Software
Spheron VR AG
Springer
Stratasys, Inc.
Sunnybrook Technologies Inc.
Sybex, Inc.
Syflex LLC.
Tekscan, Inc.
Texas Memory Systems, Inc.
The Art Institutes
The MIT Press
The Orphanage Inc.
The3DShop.com
THQ
Tippett Studio
Tobii Technology AB
Unitek Information Technologies
Vancouver Film School
Virtools SA
Wacom Technology Corporation
Walt Disney Feature Animation
WavGen Incorporated
wondertouch, LLC
Worldwide FX
Xerox Corporation
Z Corporation

exhibitor tech talks

exhibitor sessions

3ds Max – Advanced Maxscript and the SDK
Discreet
Tuesday, 2 August, 1 – 3 pm

3ds Max is widely used as a platform for development of custom tools, exporters, and plug-ins. This session, presented by engineers from the 3ds Max development team, outlines the best techniques and practices for unlocking the power of 3ds Max at the lowest levels. Specific areas of focus include IGame, IGameExporter XML, Mental Ray shaders, Direct X, ASHLI, custom max materials, and a variety of other foundational issues. Anyone who uses writing tools on top of the 3ds Max framework will gain valuable insight from this session and the ability to interact directly with members of the development team.

Architecting the Future
SGI
Tuesday, 2 August, 1 – 3 pm

SGI and ATI provide insight into their near-term and long-term product plans, highlighting opportunities for users and developers to get a jump on tomorrow's problems with the latest scalable computing and visualization technology.

Training for Careers in Animation and Technology
Vancouver Film School
Wednesday, 3 August, 10 am – Noon

Interested in a career in the world of animation? This session includes a screening of outstanding student work, a comprehensive overview of the Vancouver Film School's Classical and 3D animation programs, admissions requirements, discussion of career opportunities, and a question-and-answer period.

Autodesk 3ds Max – Advanced Artist Workflows and Techniques
Discreet
Wednesday, 3 August, 1 – 3 pm

In this fast-paced session, application engineers from all over the US share best tips and techniques for advanced users working in 3ds Max. Tricks will be presented for all areas of the application, whether final output is designed for film or games. Even artists who have worked in 3ds Max for years will walk away with tons of new information and faster workflows to implement immediately.

GPU Rendering Analysis and Performance Tools
NVIDIA Corporation
Thursday, 4 August, 10 am – Noon

Finding and addressing GPU performance bottlenecks can be a challenging proposition. Leveraging our intimate knowledge of the GPU and driver, NVIDIA has developed an arsenal of performance tools that expose critical performance metrics, giving you the insider's edge. This talk covers performance analysis methodology using these latest analysis and optimization tools, including brand-new resources for OpenGL and Direct3D programmers in the form of NVPerfKit, and further extensions to make NVPerfHUD even more powerful.

GPU Programming Exposed: The Naked Truth Behind NVIDIA's Demos
NVIDIA Corporation
Thursday, 4 August, 1 – 3 pm

This talk presents a cutting-edge collection of techniques and visual effects from NVIDIA, that give you the knowledge you need to push the visual limits of your projects. Exclusively, for the first time ever, go behind the scenes of the latest stunning real-time effects as the NVIDIA demo team dissects their most recent demo suite, including real-time translucency, improved skin and hair rendering, innovative dynamic lighting effects, shadowing techniques, and much more. Next, programmers and 3D artists alike learn how to create real-world implementations of GPU effects for gaming, CAD, and image processing.
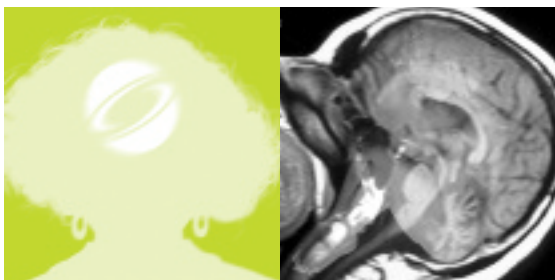
international resources

In the International Center, the multi-lingual International Resources Committee answers attendee questions, hosts presentations for attendees from specific countries and regions, offers space for talks and demonstrations, and provides informal translation services.

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conference schedule

Sunday, 31 July

8:30 am – 12:15 pm
- Course 1: Anyone Can Make Quality Animated Films! (The Eight Basic Steps to Success)
- Course 2: Introduction to Articulated Rigid Body Dynamics
- Course 3: Computational Photography
- Course 4: An Interactive Introduction to OpenGL Programming

8:30 am – 5:30 pm
- Course 9: Digital Face Cloning
- Course 10: Realistic Materials in Computer Graphics
- Course 11: Recent Advances in Haptic Rendering & Applications
- Course 12: Introduction to SIGGRAPH and Computer Graphics
- Course 13: Modern Techniques for Implicit Modeling
- Course 14: Discrete Differential Geometry: An Applied Introduction
- Posters

1 – 6 pm
- Animation Theaters
- Art Gallery: Threading Time
- Emerging Technologies
- Guerilla Studio

1:45 – 5:30 pm
- Course 5: "Madagascar:" Bringing a New Visual Style to the Screen
- Course 6: Advanced Topics on Clothing Simulation and Animation
- Course 7: Line Drawings From 3D Models
- Course 8: The Web as a Procedural Sketchbook

6 – 8 pm
- Special Event: Fast-Forward Papers Preview

Monday, 1 August

8:30 – 10:15 am
- Papers: Skin & Faces
- Papers: Hardware Rendering
- Panel: Ubiquitous Music

8:30 am – 12:15 pm
- Course 15: Crowd and Group Animation
- Course 16: Video-Based Rendering
- Course 17: Acting and Movement for Animators: Students, Teachers, and Professionals
- Course 18: Pre-Computed Radiance Transfer: Theory and Practice
- Course 19: Performance OpenGL: Platform Independent Techniques
- Course 20: An Open-Source CVE for Programming Education: A Case Study
- Course 21: Manifolds and Modeling

9 am – 6 pm
- Animation Theaters
- Art Gallery: Threading Time
- Emerging Technologies
- Guerilla Studio

10:30 am – 12:15 pm
- Papers: Mesh Manipulation
- Papers: Illustration and Image-Based Modeling
- Sketches

1:15 – 3:15 pm
- ***Keynote Address/Awards: "George Lucas: A Keynote Q&A With the Father of Digital Cinema"**

3:45 – 5:30 pm
- Course 22: Résumés and Demo Reels: If Yours Aren't Working, Neither Are You!
- Course 23: Taxonomy of Digital Creatures: Interpreting Character Designs as Computer Graphics Techniques
- Course 24: Digital Modeling of the Appearance of Materials
- Course 25: Open Source 2005 and Beyond: Thriving Despite the DMCA and Patent Threats to Linux
- Course 26: Visualizing Quaternions
- Course 27: Layered Manufacturing as a Graphics Display Device
- Papers: Meshes I
- Papers: Video & Image Matting
- Panel: Networked Performance
- Posters
- Sketches

6 – 8 pm
- Special Session: Games: Beyond the Joystick

7 – 9 pm
- Electronic Theater

*Conference Select and Exhibits Plus attendees will have access to the Keynote Address via closed circuit TV.

Tuesday, 2 August

8:30 – 10:15 am
- Papers: Meshes II
- Papers: Perception

8:30 am – 12:15 pm
- Course 28: From Mocap to Movie: The Making of "The Polar Express"
- Course 29: High-Dynamic-Range Imaging and Image-Based Lighting
- Course 30: Spatial Augmented Reality: A Modern Approach to Augmented Reality
- Course 31: Computer-Generated Medical, Technical, and Scientific Illustration
- Course 32: Quantum Rendering: An Introduction to Quantum Computing and Quantum Algorithms, and Their Applications to Computer Graphics

8:30 am – 5:30 pm
- Course 37: GPU Shading and Rendering
- Posters
- Sketches

9 am – 6 pm
- Animation Theaters
- Art Gallery: Threading Time
- Emerging Technologies
- Guerilla Studio

10 am – 4 pm
- Job Fair

10 am – 6 pm
- **Exhibition & Exhibitor Tech Talks**

10:30 am – 12:15 pm
- Papers: Motion Capture Data: Interaction and Selection
- Papers: Plants
- Panel: International CG Collaboration

1:30 – 3:30 pm
- Electronic Theater Matinée

1:45 – 3:30 pm
- Course 33: Hot Topics in 3D Medical Visualization
- Papers: Capturing Reality I
- Papers: Texture Synthesis
- Panel: The Open-Source Movement and the Graphics Community

1:45 – 5:30 pm
- Course 34: The Invisible Actor
- Course 35: Developing Mobile 3D Applications With OpenGL ES and M3G
- Course 36: Spatial Displays and Computer Graphics

3:45 – 5:30 pm
- Papers: Capturing Reality II
- Special Event: ACM Student Research Competition Presentations

3:45 – 5:45 pm
- Special Session: From the Earth to Infinity

5 – 6:30 pm
- Get Involved

6 – 8 pm
- Special Session: A Star Wars Retrospective

7 – 9 pm
- Electronic Theater

Wednesday, 3 August

8 – 8:30 am
- Educators Program Ramp-In

8:30 – 10 am
- Educators Program Forum – Learning Environments

8:30 – 10:15 am
- Papers: Image Processing
- Papers: Large Models & Large Displays

8:30 am – 5:30 pm
- Course 38: Introduction to Real-Time Ray Tracing
- Course 39: GPGPU: General-Purpose Computation on Graphics Hardware
- Posters
- Sketches
- Web Program

9 am – 6 pm
- Animation Theaters
- Art Gallery: Threading Time
- Emerging Technologies
- Guerilla Studio

10 am – 4 pm
- Job Fair

10 am – 6 pm
- **Exhibition & Exhibitor Tech Talks**

10:15 am – 12:15 pm
- Educators Program Panel: Studio Views of Demo Tapes

10:30 am – 12:15 pm
- Papers: Fluid Simulation
- Panel: Believable Characters

10:30 am – 12:30 pm
- Special Session: Legacy of Disney Animation

10:30 am – 5:30 pm
- Educator Program Incubator

1 – 2:30 pm
- Educators Program Forum – Learning Games and Narrative

1:30 – 3:30 pm
- Electronic Theater Matinée

1:45 – 3:30 pm
- Papers: Dynamics of Solids

2:30 – 3:30 pm
- Educators Program Forum – Teaching 3D Animation Online

3:45 – 5:15 pm
- Educators Program Forum – Learning Projects

3:45 – 5:30 pm
- Papers: Deformable Models
- Panel: From University Lab to Movie Screen and Back Again

5:15 – 5:55 pm
- Educators Program Papers

5:30 – 7:30 pm
- Special Session: Extreme Fashion

7 – 9 pm
- Electronic Theater

7:30 – 9:30 pm
- Special Event: Cyber Fashion Show

8 – 10 pm
- Reception: The Center at Cathedral Plaza

conference schedule

Thursday, 4 August

8 – 9 am
- Educators Program Quicktakes

8:30 – 10:15 am
- Papers: Geometry on GPUs
- Papers: Transparency & Translucency
- Panel: The Ultimate Display

8:30 am – Noon
- Posters

8:30 am – 5:30 pm
- Educators Program Incubator
- Sketches
- Web Program

9 – 10 am
- Educators Program Panel: Lessons Learned From Games for Education

9 am – 5 pm
- Animation Theaters
- Art Gallery: Threading Time
- Emerging Technologies
- Guerilla Studio

10 am – 5 pm
- **Exhibition & Exhibitor Tech Talks**

10:15 am – 12:15 pm
- Educators Program Forum: Issues of Scale

10:30 am – 12:15 pm
- Papers: Styles of Human Motion
- Papers: Appearance & Illumination

11:30 am – 1:15 pm
- Special Session: "The Polar Express"

1:30 – 3 pm
- Educators Program Forum – Issues of Curriculum

1:45 – 3:30 pm
- Papers: Shape & Texture
- Papers: Ray Tracing
- Panel: WWAI

3:15 – 4:35 pm
- Educators Program Papers

3:45 – 5:15 pm
- Educators Program: Forum – Learning Projects

3:45 – 5:30 pm
- Papers: Precomputed Light Transport

4:45 – 5:30 pm
- Educators Program Ramp Out

courses

Learn how to master the latest digital theories and expert practices in the art and science of computer graphics and interactive techniques. In seven quick tutorials, 23 half-day sessions, and nine full-day courses, leading academic and industry specialists teach topics that deepen understanding, inspire exploration, and immediately enhance real-world skills. These courses are only available at SIGGRAPH 2005.

Full Conference registration allows attendees access to all SIGGRAPH 2005 courses. All the Course Notes are on the Full Conference DVD-ROM that Full Conference attendees receive with their registration. For additional information on the level of experience and education required to make best use of the instruction offered in each course, see the SIGGRAPH 2005 web site: www.siggraph.org/s2005

Seating in Courses is on a first-come, first-served basis. Please be sure to arrive early for the Courses you wish to attend.
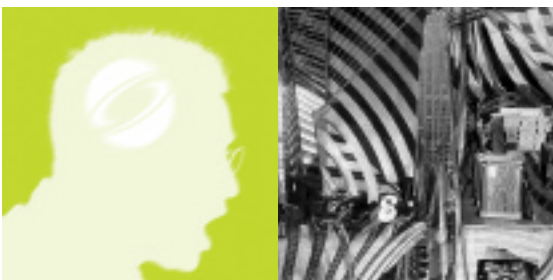
Sunday, 31 July

1

Anyone Can Make Quality Animated Films! (The Eight Basic Steps to Success)
Sunday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

Whether the film is one minute or one hour, there are simple basic steps to producing any animated film. This course explains how anyone with a little talent can apply industry-standard techniques to create polished, professional, commercial animated films. All the basic techniques, from developing the initial concept to compositing the final release print, are summarized and discussed. Comprehensive handouts guide attendees through the process.

Co-Organizers
Eric Van Hamersveld
Bob Hanon
The Art Institute of California - San Diego

2

Introduction to Articulated Rigid Body Dynamics
Sunday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

A comprehensive overview of articulated-rigid-body dynamics simulation based on Featherstone's recursive method and supplemented with analytical constraints, impact, frictional contact, joint-space control, and implicit integration. Novel applications from film production and video games, including simulation of foliage, hair, and character dynamics, are demonstrated.

Co-Organizers
Sunil Hadap
PDI/DreamWorks

Vangelis Kokkevis
Sony Computer Entertainment

3

Computational Photography
Sunday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

Learn the latest computational methods in digital imaging that overcome the traditional limitations of a camera and enable novel imaging applications. The course provides a practical guide to topics in image capture, lighting, and manipulation methods for generating compelling pictures for computer graphics and for extracting scene properties for computer vision.

Co-Organizers
Ramesh Raskar
Mitsubishi Electric Research Labs (MERL)

Jack Tumblin
Northwestern University

Sunday, 31 July

4

An Interactive Introduction to OpenGL Programming
Sunday, Half-Day, 8:30 am – 12:15 pm
LEVEL: BEGINNING

A complete introduction to authoring interactive 3D graphics applications using OpenGL. The course covers fundamental topics such as modeling, lighting, depth buffering, and texture mapping. A brief survey of more advanced topics is also pre-sented. At the completion of the course, attendees will be able to write interactive OpenGL applications with moving, lit, textured 3D objects.

Organizer
Dave Shreiner
SGI

5

"Madagascar:" Bringing a New Visual Style to the Screen
Sunday, Half-Day, 1:45 – 5:30 pm
LEVEL: BEGINNING

New insights into the creative and technical thought processes required to evolve a new look for a CG movie. Highlights include how moving away from stylized realism required rethinking the creative process, development methods, and technologies, plus a comparison of the approaches that worked with approaches that did not.

Co-Organizers
Philippe Gluckman
Denise Minter
DreamWorks Animation

6

Advanced Topics on Clothing Simulation and Animation
Sunday, Half-Day, 1:45 – 5:30 pm
LEVEL: ADVANCED

An introduction to state-of-the-art techniques for simulating and animating clothing. The course begins by presenting cloth simulation procedures, then presents in-depth knowledge on physical modeling of cloth and collision-resolution techniques, including practical issues in implementation. It closes by showing a variety of fashions constructed by a major digital fashion company.

Co-Organizers
Kwang-Jin Choi
FXGear Inc.

Hyeong-Seok Ko
Seoul National University

7

Line Drawings From 3D Models
Sunday, Half-Day, 1:45 – 5:30 pm
LEVEL: INTERMEDIATE

Techniques for automated rendering of 3D models using sparse line drawing styles, for applications ranging from illustration through cartoons and games. The course introduces concepts of visual perception; defines silhouettes, contours, creases, and suggestive contours; describes efficient algorithms for finding these lines; and presents methods for artistic stylization.

Organizer
Szymon Rusinkiewicz
Princeton University

8

The Web as a Procedural Sketchbook
Sunday, Half-Day, 1:45 – 5:30 pm
LEVEL: INTERMEDIATE

Ideas that effectively integrate new technology with new visual design can be quickly developed and published on the web, using only Java applets. This course uses a selection of applets as illustrative examples to show how you can rapidly develop and publish new ideas on the web. Attendees learn to use Java applets to quickly disseminate visual and procedural ideas (animation, modeling, design, gameplay paradigms, etc.). The course provides source code for an extensive set of libraries that enable rapid development of applets.

Organizer
Ken Perlin
New York University

9

Digital Face Cloning
Sunday, Full-Day, 8:30 am – 5:30 pm
LEVEL: INTERMEDIATE

Digitally cloned actors have recently become a reality. This course describes the distinct technologies used in producing a photo-real digital clone and outlines the significant remaining research challenges in this emerging field.

Co-Organizers
Fred Pighin
University of Southern California

J.P. Lewis
Graphics Primitive

10

Realistic Materials in Computer Graphics
Sunday, Full-Day, 8:30 am – 5:30 pm
LEVEL: INTERMEDIATE

An overview of measuring reflection properties of materials for computer graphics. The course presents a set of current acquisition methods in which each approach is particularly suited for a specific type of material: opaque surfaces, subsurface scattering, fibers, and complete objects.

Co-Organizers
Hendrik P. A. Lensch
Stanford University

Michael Goesele
MPI Informatik

11

Recent Advances in Haptic Rendering & Applications
Sunday, Full-Day, 8:30 am – 5:30 pm
LEVEL: INTERMEDIATE

An overview of recent haptic rendering algorithms that use the sense of touch as a communication medium in addition to graphical display. The course also presents different approaches to designing touch-enabled interfaces for various applications, from scientific visualization, medical training, 3D-model design, and virtual prototyping to creative processes.

Co-Organizers
Ming C. Lin
University of North Carolina at Chapel Hill

Miguel Otaduy
Eidgenössische Technische Hochschule Zürich

12

Introduction to SIGGRAPH and Computer Graphics
Sunday, Full-Day, 8:30 am – 5:30 pm
LEVEL: BEGINNING

You're in the convention center. Now what? This course eases newcomers into the SIGGRAPH experience. It begins with a guide to making the most of attending SIGGRAPH 2005, then provides a complete summary, using slides and demos, of how graphics works and some key applications. An annotated bibliography is included in the notes.

Course 12 is open to Exhibits Plus, Conference Select, and Full Conference attendees. All other Courses require Full Conference registration.

Organizer
Mike Bailey
Oregon State University

Sunday, 31 July

13

Modern Techniques for Implicit Modeling
Sunday, Full-Day, 8:30 am – 5:30 pm
LEVEL: INTERMEDIATE

Recent developments in modern implicit surfaces, particularly the use of radial-basis functions, MPUs, and digital Morse theory, plus examples of real-world applications from shape transformation to medical modeling. Lectures include the mathematics of implicit modeling and some formal treatment of smoothness issues and sampling analysis for constrained, interpolating, implicit surfaces. Attendees will acquire an overview of the techniques, a better understanding of the mathematics, an introduction to real-world applications, and a primer on open-source software that is freely available for modeling with implicit surfaces.

Co-Organizers
James F. O'Brien
University of California, Berkeley

Terry S. Yoo
National Library of Medicine, NIH

14

Discrete Differential Geometry: An Applied Introduction
Sunday, Full-Day, 8:30 am – 5:30 pm
LEVEL: INTERMEDIATE

An introduction to fundamentals of discrete differential geometry. This new and elegant area of mathematics has exciting applications, as this course demonstrates in practical examples of surface fairing, parameterization, cloth/shell simulation, and fluid flow.

Organizer
Eitan Grinspun
Columbia University

Monday, 1 August

15

Crowd and Group Animation
Monday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

A continuous challenge for special effects in movies is the production of realistic virtual crowds. There is also a need for real-time crowds in games and VR. This course presents state-of-the-art techniques and examples from recent movies ("Lord of the Rings," "Shrek2," "Madagascar") and VR applications.

Organizer
Daniel Thalmann
EPFL VRlab

Monday, 1 August

16

Video-Based Rendering
Monday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

A thorough introduction to how to acquire and process multiple video streams for omni-perspective, interactive rendering of real-world, dynamic scenes. Attendees learn how to reconstruct and represent dynamic scene geometry from multi-video footage, as well as how to render time-varying scenes video-realistically from arbitrary viewpoint in real time.

Co-Organizers
Marcus Magnor
MPI Informatik

Marc Pollefeys
University of North Carolina at Chapel Hill

17

Acting and Movement for Animators: Students, Teachers, and Professionals
Monday, Half Day, 8:30 am – 12:15 pm
LEVEL: BEGINNING

A physically based acting class for animators and others that allows them to experience the acting and character-development processes. The goal is to help assist character animators create more believable character movement and emotion.

Organizer
John C. Finnegan
Purdue University

Tickets are required for entrance to this course. Tickets will be distributed to Full Conference and Monday One Day Pass registrants at the door of the course. There is no additional charge for tickets, but they are distributed on a first-come, first-served basis. Attendance is limited.

18

Pre-Computed Radiance Transfer: Theory and Practice
Monday, Half Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

This course covers: the theory underlying a general model of shading and shadowing for real-time rendering, basic radiance transfer techniques, more advanced techniques that incorporate higher-frequency lighting and arbitrary BRDFs, the differences among these algorithms, and insights the presenters have gained working in this area.

Co-Organizers
Jan Kautz
Massachusetts Institute of Technology

Jaakko Lehtinen
Helsinki University of Technology and Remedy Entertainment Ltd.

Peter-Pike Sloan
Microsoft Corporation

19

Performance OpenGL: Platform Independent Techniques
Monday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

OpenGL performance analysis, tips, and techniques to help programmers write better OpenGL programs regardless of their development platform. Topics include: the causes of and solutions to performance problems in OpenGL programs, techniques for organizing data, and how advanced OpenGL features can make OpenGL programs run faster.

Co-Organizers
Bob Kuehne
Blue Newt Software

Dave Shreiner
SGI

20

An Open-Source CVE for Programming Education: A Case Study
Monday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

The Multi-User Programming Pedagogy for Enhancing Traditional Study (M.U.P.P.E.T.S.) system (a fully featured collaborative virtual environment) has been in development at Rochester Institute of Technology for several years. This course describes how the system was built and how it is used in the classroom for programming and graphics education, as well as how Open Source has affected the system, its development, and its deployment.

Organizer
Andrew Phelps
Rochester Institute of Technology

21

Manifolds and Modeling
Monday, Half-Day, 8:30 am – 12:15 pm
LEVEL: ADVANCED

What do the configuration space of an animation skeleton, a subdivision surface, and a lightfield have in common? All of these are examples of manifolds. This course presents an overview of manifold constructions useful for graphics applications, with a focus on two-dimensional manifolds.

Co-Organizers
Cindy Grimm
Washington University in St. Louis

Denis Zorin
New York University

22

Résumés and Demo Reels: If Yours Aren't Working, Neither are You!
Monday, Tutorial, 3:45 – 5:30 pm
LEVEL: BEGINNING

Learn what it takes to get a job in the computer graphics field. A top career coach and recruiter reveals the secrets of how to create an irresistible résumé and showcase your talent in a demo reel to get the job you want. Sample résumés and demo reels are included.

Organizer
Pamela Kleibrink Thompson
Ideas to Go

23

Taxonomy of Digital Creatures: Interpreting Character Designs as Computer Graphics Techniques
Monday, Tutorial, 3:45 – 5:30 pm
LEVEL: BEGINNING

The process of developing digital creatures from concept to the screen is presented as a series of decision points. The focus is on classifying issues to allow design and performance requirements to drive the techniques employed in execution of the final product.

Organizer
Tim McLaughlin
Industrial Light & Magic

24

Digital Modeling of the Appearance of Materials
Monday, Tutorial, 3:45 – 5:30 pm
LEVEL: BEGINNING

Realistic computer graphics rendering requires modeling the appearance of materials. This course covers the range of techniques for specifying the materials, including classifying physical materials by observation, basic mathematical representations, and modeling changes in material appearance over time.

Organizer
Holly Rushmeier
Yale University

Monday, 1 August

25

Open Source 2005 and Beyond: Thriving Despite the DMCA and Patent Threats to Linux
Monday, Tutorial, 3:45 – 5:30 pm
LEVEL: BEGINNING

This tutorial focuses on issues confronting computer graphics designers and other software developers. The parameters of intellectual property risk, applicable rules, and the possible future repercussions of using open-source libraries are addressed from the viewpoint of how to make prudent choices in advancing your business or research.

Organizer
Robert P. Cogan
Nath & Associates

26

Visualizing Quaternions
Monday, Tutorial, 3:45 – 5:30 pm
LEVEL: ADVANCED

This tutorial exposes the fundamental features of quaternions as they apply to all fields of computer graphics and visualization by using visual representations of quaternions themselves to provide intuition and insight.

Organizer
Andrew J. Hanson
Indiana University

27

Layered Manufacturing as a Graphics Display Device
Monday, Tutorial, 3:45 – 5:30 pm
LEVEL: BEGINNING

An introduction to 3D layered manufacturing. Overview and comparison of commercial layered manufacturing systems; software techniques, interchange issues, and process planning; and application areas with case studies, from visualization models to working prototype parts.

Organizer
Sara McMains
University of California, Berkeley

Tuesday, 2 August

28

From Mocap to Movie: The Making of "The Polar Express"
Tuesday, Half-Day, 8:30 am – 12:15 pm
LEVEL: BEGINNING

Supervisors present an in-depth look at the making of "The Polar Express," including innovations in on-stage motion capture, virtual camera systems, animation, fx, and rendering, which contributed to the film's unique look and style.

Organizer
Rob Bredow
Sony Pictures Imageworks

Special Note:
Artists and technicians from Sony Pictures Imageworks also present a Special Session on how they transformed the theatrical release into a 3D stereoscopic adventure, Thursday, 4 August, 11:30 am - 1:15 pm, at the IMAX Theater at the California Science Center.

29

High-Dynamic-Range Imaging and Image-Based Lighting
Tuesday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

New techniques in capturing, representing, processing, and displaying high-dynamic-range images that cover the full range of light in the real world. The techniques enable marked improvements in visual fidelity and photorealism for computer graphics. The course also summarizes applications to photoreal lighting and compositing.

Co-Organizers
Paul Debevec
University of Southern California
Institute for Creative Technologies

Erik Reinhard
University of Central Florida

30

Spatial Augmented Reality: A Modern Approach to Augmented Reality
Tuesday, Half-Day, 8:30 am – 12:15 pm
LEVEL: BEGINNING

A survey of the latest techniques for augmented reality that go beyond conventional head-mounted-displays. The course introduces prototypes, explains rendering and calibration algorithms, discusses case studies, and presents examples that combine the real and virtual worlds. Participants learn about new applications in art, science, education, and industry that are enabled by modern AR techniques.

Co-Organizers
Oliver Bimber
Bauhaus-Universität Weimar

Ramesh Raskar
Mitsubishi Electric Research Lab Oratories (MERL)

31

Computer-Generated Medical, Technical, and Scientific Illustration
Tuesday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

Important research and developments in computer-generated illustration techniques within non-photorealistic rendering (NPR). The course focuses on illustration techniques, including methods for computer-generated technical, scientific, and medical illustration; interactive illustrations and volumetric data; and practical perspectives on the use of illustration in medical education and training.

Co-Organizers
David S. Ebert
Purdue University

Mario Costa Sousa
University of Calgary

32

Quantum Rendering: An Introduction to Quantum Computing and Quantum Algorithms, and Their Applications to Computer Graphics
Tuesday, Half-Day, 8:30 am – 12:15 pm
LEVEL: INTERMEDIATE

A concise and self-contained introduction to quantum computing and its application to computer graphics. In addition to providing a general overview of quantum computing, the course reviews the theoretical limitations of classical computing for graphics and simulation, and how quantum computers can overcome these restrictions.

Co-Organizers
Marco Lanzagorta
NCI Information Systems/
US Naval Research Laboratory

Jeffrey K. Uhlmann
University of Missouri-Columbia

33

Hot Topics in 3D Medical Visualization
Tuesday, Tutorial, 1:45 – 3:30 pm
LEVEL: INTERMEDIATE

Recent open-source research initiatives have created new APIs for complex data analysis. Combined with computer graphics, these tools become powerful applications for computer-assisted medicine. This tutorial covers medical applications, data analysis, and visualization, and touches on the policies and digital infrastructure for engaging in open-source software development.

Organizer
Luis Ibanez
Kitware Inc.

34

The Invisible Actor
Tuesday, Half-Day, 1:45 – 5:30 pm
LEVEL: BEGINNING

An examination of the role of staging and composition in computer-animated films. Using examples from "Madagascar," the course explores the core elements of composition and how they are used to create a visual style.

Co-Organizers
Ewan Johnson
Denise Minter
DreamWorks Animation

35

Developing Mobile 3D Applications With OpenGL ES and M3G
Tuesday, Half-Day, 1:45 – 5:30 pm
LEVEL: INTERMEDIATE

This course presents two new 3D graphics APIs for mobile platforms: OpenGL ES and M3G. Topics include the structure of the APIs, the evolution of mobile graphics standards, programming examples, and tips and tricks for programmers and artists. Attendees gain an understanding of the functionality the standards provide and how to use them to create efficient graphics applications.

Organizer
Kari Pulli
Nokia Research Center &
Massachusetts Institute of Technology

36

Spatial Displays and Computer Graphics
Tuesday, Half-Day, 1:45 – 5:30 pm
LEVEL: INTERMEDIATE

This course provides a foundation for understanding how spatial ("three-dimensional") displays work, with an emphasis on autostereoscopic displays. The course covers common properties of all spatial displays, specifics of three classes of display technologies (multi-view displays, volumetric displays, and holographic video), and computer graphics techniques for 3D image synthesis.

Organizer
Michael Halle
Harvard Medical School, MIT Media Lab

Wednesday, 3 August

37

GPU Shading and Rendering
Tuesday, Full-Day, 8:30 am – 5:30 pm
LEVEL: INTERMEDIATE

Real-time programmable shading can now be experienced everywhere from game consoles to the highest-end PCs. This updated course brings together leading researchers from industry and academia to present the foundations of hardware shading, the latest developments, and how shading hardware is increasingly used for non-real-time rendering.

Organizer
Marc Olano
University of Maryland, Baltimore County

38

Introduction to Real-Time Ray Tracing
Wednesday, Full Day, 8:30 am – 5:30 pm
LEVEL: INTERMEDIATE

Real-time ray tracing brings physically correct images, advanced rendering features, and easy content creation to interactive 3D graphics. This course gives attendees the background and insight required to build their own fast ray tracers, discusses advanced applications, and provides first-hand experience through software distributed freely to all attendees.

Co-Organizers
Peter Shirley
University of Utah

Philipp Slusallek
Universität des Saarlandes

39

GPGPU: General-Purpose Computation on Graphics Hardware
Wednesday, Full Day, 8:30 am – 5:30 pm
LEVEL: INTERMEDIATE

Recent advances in graphics processor (GPU) technology have transformed GPUs into powerful engines capable of a variety of computations beyond computer graphics. This course presents a detailed introduction to general-purpose computation on graphics hardware (GPGPU), with emphasis on core computational building blocks ranging from linear algebra to database queries.

Co-Organizers
Mark Harris
NVIDIA Corporation

David Luebke
University of Virginia

papers

Experience the highest standard of research excellence. In SIGGRAPH 2005 Papers, internationally renowned researchers challenge conventional wisdom and establish new paradigms for future inquiry. No other conference presents the full range of the world's most significant achievements in computer graphics and interactive techniques.

The Papers listed here have been conditionally accepted and are undergoing a final review. When that process is complete, the final list will be available on the SIGGRAPH 2005 web site: www.siggraph.org/s2005

Full Conference registration allows attendees access to all SIGGRAPH 2005 Papers. Seating is on a first-come, first-served basis. Please be sure to arrive early for the Paper sessions you wish to attend.

●●○

Special Event
Fast-Forward Papers Preview
Sunday, 31 July, 6 – 8 pm

Snapshot overviews of the paper sessions, in which authors give short summaries of their work. It's a fast, fun, and provocative preview of the latest and most significant findings in computer graphics and interactive techniques.

Monday, 1 August

8:30 – 10:15 am
Skin & Faces

Session Chair: Ronen Barzel,
Pixar Animation Studios

Skinning Mesh Animations

Doug L. James
Christopher D. Twigg
Carnegie Mellon University

SCAPE: Shape Completion and Animation of People

Dragomir Anguelov
Praveen Srinivasan
Daphne Koller
Sebastian Thrun
Jim Rodgers
Stanford University

James Davis
University of California, Santa Cruz

Automatic Determination of Facial Muscle Activations From Sparse Motion Capture Marker Data

Eftychios Sifakis
Igor Neverov
Stanford University

Ronald Fedkiw
Stanford University and Industrial Light & Magic

Face Transfer With Multilinear Models

Daniel Vlasic
Massachusetts Institute of Technology
Computer Science and Artificial Intelligence
Laboratory

Matt Brand
Hanspeter Pfister
Mitsubishi Electric Research Laboratories
(MERL)

Jovan Popović
Massachusetts Institute of Technology
Computer Science and Artificial Intelligence
Laboratory

8:30 – 10:15 am
Hardware Rendering

Session Chair: Hanspeter Pfister,
Mitsubishi Electric Research Laboratories
(MERL)

RPU: A Programmable Ray Processing Unit for Realtime Ray Tracing

Sven Woop
Jörg Schmittler
Philipp Slusallek
Universität des Saarlandes

User-Configurable Automatic Shader Simplification

Fabio Pellacini
Cornell University

A Relational Debugging Engine for the Graphics Pipeline

Nathaniel Duca
Krzysztof Niski
Jonathan Bilodeau
Jonathan Cohen
Johns Hopkins University

Lpics: A Hybrid Hardware-Accelerated Relighting Engine for Computer Cinematography

Fabio Pellacini
Kiril Vidimce
Aaron Lefohn
Alex Mohr
Mark Leone
John Warren
Pixar Animation Studios

10:30 am – 12:15 pm
Mesh Manipulation

Session Chair: Ioana Boier-Martin, IBM
T.J. Watson Research Center

Meshless Deformations Based on Shape Matching

Matthias Müller
Bruno Heidelberger
Eidgenössische Technische Hochschule Zürich

Matthias Teschner
Universität Freiburg

Markus Gross
Eidgenössische Technische Hochschule Zürich

Linear Rotation-Invariant Coordinates for Meshes

Yaron Lipman
Olga Sorkine
David Levin
Daniel Cohen-Or
Tel Aviv University

Mesh-Based Inverse Kinematics

Robert W. Sumner
Matthias Zwicker
Massachusetts Institute of Technology
Computer Science and Artificial Intelligence
Laboratory

Craig Gotsman
Harvard University

Jovan Popović
Massachusetts Institute of Technology
Computer Science and Artificial Intelligence
Laboratory

Large Mesh Deformation Using the Volumetric Graph Laplacian

Kun Zhou
Microsoft Research Asia

Jin Huang
Zhejiang University

John Snyder
Microsoft Research

Xinguo Liu
Microsoft Research Asia

Hujun Bao
Zhejiang University

Baining Guo
Heung-Yeung Shum
Microsoft Research Asia

Note: Hall A will be cleared immediately after this session so it can be set up for the Keynote Address/Awards at 1:15 pm.

Monday, 1 August

10:30 am – 12:15 pm
Illustration and Image-Based Modeling

Session Chair: François X. Sillion
ARTIS, GRAVIR/IMAG – INRIA

MoXi: Real-Time Ink Dispersion in Absorbent Paper
Nelson S.-H. Chu
Chiew-Lan Tai
Hong Kong University of Science and Technology

Line Drawings From Volume Data
Michael Burns
Janek Klawe
Adam Finkelstein
Szymon Rusinkiewicz
Princeton University

Doug DeCarlo
Rutgers University

Motion Magnification
Ce Liu
Antonio Torralba
William T. Freeman
Frédo Durand
Massachusetts Institute of Technology
Computer Science and Artificial Intelligence Laboratory

Edward H. Adelson
Massachusetts Institute of Technology
Department of Brain and Cognitive Sciences, and Computer Science and Artificial Intelligence Laboratory

Out-of-Core Tensor Approximation of Multi-Dimensional Matrices of Visual Data
Hongcheng Wang
Qing Wu
Yizhou Yu
Narendra Ahuja
University of Illinois at Urbana-Champaign

3:45 – 5:30 pm
Meshes I

Session Chair: Alla Sheffer, The University of British Columbia

Efficiently Combining Positions and Normals for Precise 3D Geometry
Diego Nehab
Szymon Rusinkiewicz
Princeton University

James Davis
University of California, Santa Cruz

Ravi Ramamoorthi
Columbia University

Robust Moving Least-Squares Fitting With Sharp Features
Shachar Fleishman
University of Utah

Claudio T. Silva
University of Utah

Fast Exact and Approximate Geodesics on Meshes
Vitaly Surazhsky
Tatiana Surazhsky
University of Oslo and Technion

Danil Kirsanov
Steven J. Gortler
Harvard University

Hugues Hoppe
Microsoft Research

Mean Value Coordinates for Closed Triangular Meshes
Tao Ju
Scott Schaefer
Joe Warren
Rice University

3:45 – 5:30 pm
Video & Image Matting

Session Chair: Wojciech Matusik, Mitsubishi Electric Research Laboratories (MERL)

Defocus Video Matting
Morgan McGuire
Brown University

Wojciech Matusik
Hanspeter Pfister
Mitsubishi Electric Research Laboratories (MERL)

John F. Hughes
Brown University

Frédo Durand
Massachusetts Institute of Technology
Computer Science and Artificial Intelligence Laboratory

Automatic Photo Pop-up
Derek Hoiem
Alexei Efros
Martial Hebert
Carnegie Mellon University

Interactive Video Cutout
Jue Wang
Pravin Bhat
University of Washington

Alex Colburn
Maneesh Agrawala
Michael F. Cohen
Microsoft Research

Video Object Cut and Paste
Yin Li
Jian Sun
Heung-Yeung Shum
Microsoft Research Asia

Tuesday, 2 August

8:30 – 10:15 am
Meshes II

Session Chair: Hugues Hoppe,
Microsoft Research

Surface Compression With Geometrical Bandelets
Gabriel Peyré
Stéphane Mallat
CMAP Ecole Polytechnique

Geometry-Guided Progressive Lossless 3D Mesh Coding With Octree (OT) Decomposition
Jingliang Peng
C.-C. Jay Kuo
University of Southern California

Variational Tetrahedral Meshing
Pierre Alliez
David Cohen-Steiner
Mariette Yvinec
INRIA

Mathieu Desbrun
California Institute of Technology

Shell Maps
Brian Budge
Louis Feng
Serban D. Porumbescu
Kenneth I. Joy
University of California, Davis

8:30 – 10:15 am
Perception

Session Chair: Maneesh Agrawala,
Microsoft Research

Color2Gray: Salience-Preserving Color Removal
Amy A. Gooch
Sven Olsen
Bruce Gooch
Jack Tumblin
Northwestern University

Evaluation of Tone Mapping Operators Using a High Dynamic Range Display
Patrick Ledda
Alan Chalmers
Tom Troscianko
University of Bristol

Helge Seetzen
Sunnybrook Technologies

A Photon Accurate Model of the Human Eye
Michael F. Deering

Mesh Saliency
Chang Ha Lee
Amitabh Varshney
David W. Jacobs
University of Maryland at College Park

10:30 am – 12:15 pm
Motion Capture Data: Interaction and Selection

Session Chair: Nancy Pollard, Carnegie
Mellon University

Action Synopsis: Pose Selection and Illustration
Jackie Assa
Yaron Caspi
Daniel Cohen-Or
Tel Aviv University

Efficient Content-Based Retrieval of Motion Capture Data
Meinard Mueller
Tido Roeder
Michael Clausen
Universität Bonn

Performance Animation From Low-Dimensional Control Signals
Jinxiang Chai
Jessica K. Hodgins
Carnegie Mellon University

Dynamic Response for Motion Capture Animation
Victor Zordan
Anna Majkowska
Bill Chiu
Matthew Fast
University of California, Riverside

Tuesday, 2 August

10:30 am – 12:15 pm
Plants

Session Chair: Greg Turk, Georgia Institute of Technology

Modeling and Visualization of Leaf Venation Patterns

Adam Runions
Martin Fuhrer
Brendan Lane
Pavol Federl
Anne-Gaëlle Rolland-Lagan
Przemyslaw Prusinkiewicz
University of Calgary

Real-Time Rendering of Plant Leaves

Lifeng Wang
Microsoft Research Asia

Wenle Wang
Tsinghua University

Julie Dorsey
Yale University

Xu Yang
Nankai University

Baining Guo
Heung-Yeung Shum
Microsoft Research Asia

Floral Diagrams and Inflorescences: Interactive Flower Modeling Using Botanical Structural Constraints

Takashi Ijiri
The University of Tokyo

Shigeru Owada
The University of Tokyo and Sony CSL

Makoto Okabe
The University of Tokyo

Takeo Igarashi
The University of Tokyo and JST/PRESTO

Measuring and Modeling the Appearance of Finished Wood

Stephen R. Marschner
Stephen H. Westin
Adam Arbree
Jonathan T. Moon
Cornell University

1:45 – 3:30 pm
Capturing Reality I

Session Chair: Szymon Rusinkiewicz, Princeton University

Fourier Slice Photography

Ren Ng
Stanford University

Dual Photography

Pradeep Sen
Billy Chen
Gaurav Garg
Stanford University

Stephen R. Marschner
Cornell University

Mark Horowitz
Marc Levoy
Hendrik P. A. Lensch
Stanford University

Performance Relighting and Reflectance Transformation With Time-Multiplexed Illumination

Andreas Wenger
Andrew Gardner
Chris Tchou
Jonas Unger
Tim Hawkins
Paul Debevec
University of Southern California, Institute for Creative Technologies

High Performance Imaging Using Large Camera Arrays

Bennett Wilburn
Stanford University

Neel Joshi
University of California, San Diego

Vaibhav Vaish
Eino-Ville Talvala
Emilio Antunez
Adam Barth
Andrew Adams
Mark Horowitz
Marc Levoy
Stanford University

1:45 – 3:30 pm
Texture Synthesis

Session Chair: Heung-Yeung Shum, Microsoft Research Asia

Parallel Controllable Texture Synthesis

Sylvain Lefebvre
Hugues Hoppe
Microsoft Research

Texture Design Using a Simplicial Complex of Morphable Textures

Wojciech Matusik
Mitsubishi Electric Research Laboratories (MERL)

Matthias Zwicker
Frédo Durand
Massachusetts Institute of Technology
Computer Science and Artificial Intelligence Laboratory

Texture Optimization for Example-Based Synthesis

Vivek Kwatra
Irfan Essa
Aaron F. Bobick
Nipun Kwatra
Georgia Institute of Technology

Wavelet Noise

Rob Cook
Tony DeRose
Pixar Animation Studios

Wednesday, 3 August

3:45 – 5:30 pm
Capturing Reality II

Session Chair: Steve Marschner, Cornell University

Acquisition of Time-Varying Participating Media
Tim Hawkins
Per Einarsson
Paul Debevec
University of Southern California, Institute for Creative Technologies

Modeling Hair From Multiple Views
Yichen Wei
Hong Kong University of Science and Technology

Eyal Ofek
Microsoft Research Asia

Long Quan
Hong Kong University of Science and Technology

Heung-Yeung Shum
Microsoft Research Asia

Panoramic Video Textures
Aseem Agarwala
Ke Colin Zheng
University of Washington

Chris Pal
University of Massachusetts Amherst

Maneesh Agrawala
Michael F. Cohen
Microsoft Research

Brian Curless
University of Washington

David H. Salesin
University of Washington & Microsoft Research

Richard Szeliski
Microsoft Research

Effects and Defects in Flash Photography
Amit Agrawal
Ramesh Raskar
Mitsubishi Electric Research Laboratories (MERL)

Shree Nayar
Columbia University

Yuanzhen Li
Massachusetts Institute of Technology
Department of Brain and Cognitive Sciences, and Computer Science and Artificial Intelligence Laboratory

8:30 – 10:15 am
Image Processing

Session Chair: Chris Begler, New York University

Compressing and Companding High Dynamic Range Images With Multiscale Wavelet Architectures
Yuanzhen Li
Lavanya Sharan
Edward H. Adelson
Massachusetts Institute of Technology
Department of Brain and Cognitive Sciences, and Computer Science and Artificial Intelligence Laboratory

Video Enhancement Using Virtual Exposures
Eric P. Bennett
Leonard McMillan
University of North Carolina at Chapel Hill

Animating Pictures With Stochastic Motion Textures
Yung-Yu Chuang
National Taiwan University

Daniel B. Goldman
Ke Colin Zheng
Brian Curless
University of Washington

David H. Salesin
University of Washington and Microsoft Research

Richard Szeliski
Microsoft Research

Image Completion With Structure Propagation
Jian Sun
Microsoft Research Asia

Lu Yuan
Tsinghua University

Jiaya Jia
Chinese University of Hong Kong

Heung-Yeung Shum
Microsoft Research Asia

8:30 – 10:15 am
Large Models & Large Displays

Session Chair: Marc Stamminger, University of Erlangen

GoLD: Interactive Display of Huge Colored and Textured Models
Louis Borgeat
Guy Godin
Philippe Massicotte
François Blais
National Research Council of Canada

Christian Lahanier
Centre de Recherche et de Restauration des Musées de France

Far Voxels: A Multiresolution Framework for Interactive Rendering of Huge Complex 3D Models on Commodity Graphics Platforms
Enrico Gobbetti
Fabio Marton
Center for Advanced Studies, Research and Development in Sardinia

Cache-Oblivious Mesh Layouts
Sung-Eui Yoon
University of North Carolina at Chapel Hill

Peter Lindstrom
Valerio Pascucci
Lawrence Livermore National Laboratory

Dinesh Manocha
University of North Carolina at Chapel Hill

The Varrier Autostereoscopic Virtual Reality Display
Daniel J. Sandin
Todd Margolis
Jinghua Ge
Javier Girado
Tom Peterka
Thomas A. DeFanti
University of Illinois at Chicago, Electronic Visualization Laboratory

Wednesday, 3 August

10:30 am – 12:15 pm
Fluid Simulation

Session Chair: John Anderson, Pixar Animation Studios

Animating Gases With Hybrid Meshes
Bryan E. Feldman
James F. O'Brien
Bryan M. Klinger
University of California, Berkeley

A Vortex Particle Method for Smoke, Water, and Explosions
Andrew Selle
Stanford University and Intel Corporation

Nick Rasmussen
Industrial Light & Magic

Ronald Fedkiw
Stanford University and Industrial Light & Magic

Discontinuous Fluids
Jeong-Mo Hong
Chang-Hun Kim
Korea University

Water Drops on Surfaces
Huamin Wang
Peter J. Mucha
Greg Turk
Georgia Institute of Technology

1:45 – 3:30 pm
Dynamics of Solids

Session Chair: Jovan Popović, Massachusetts Institute of Technology Computer Science and Artificial Intelligence Laboratory

Adaptive Dynamics of Articulated Bodies
Stephane Redon
Nico Galoppo
Ming C. Lin
University of North Carolina at Chapel Hill

Fast Frictional Dynamics for Rigid Bodies
Daniel Kaufman
Timothy Edmunds
Dinesh K. Pai
Rutgers University

Meshless Animation of Fracturing Solids
Mark Pauly
Stanford University

Richard Keiser
Eidgenössische Technische Hochschule Zürich

Bart Adams
Philip Dutré
Katholieke Universiteit Leuven

Markus Gross
Eidgenössische Technische Hochschule Zürich

Leonidas Guibas
Stanford University

1:45 – 3:30 pm
Reprise of UIST and I3D

The User-Interface Software and Technology Symposium and the Symposium on Interactive 3D Graphics and Games are two leading conferences sponsored by ACM SIGGRAPH. A selection of the best papers from the most recent UIST and I3D symposia are presented in abbreviated form.

3:45 – 5:30 pm
Deformable Models

Session Chair: Mathieu Desbrun, California Institute of Technology

Animating Sand as a Fluid
Yongning Zhu
Robert Bridson
University of British Columbia

Coupling Water and Smoke to Thin Deformable and Rigid Shells
Eran Guendelman
Stanford University and Industrial Light & Magic

Andrew Selle
Stanford University and Intel Corporation

Frank Losasso
Ronald Fedkiw
Stanford University and Industrial Light & Magic

Interactive Collision Detection Between Deformable Models Using Chromatic Decomposition
Naga Govindaraju
David Knott
Nitin Jain
Ilknurk Kabal
University of North Carolina at Chapel Hill

Rasmus Tamstorf
Disney

Russel Gayle
Ming C. Lin
Dinesh Manocha
University of North Carolina at Chapel Hill

Real-Time Subspace Integration for St.Venant-Kirchhoff Deformable Models
Jernej Barbic
Doug L. James
Carnegie Mellon University

Thursday, 4 August

8:30 – 10:15 am
Geometry on GPUs

Session Chair: Henry Fuchs, University of North Carolina at Chapel Hill

Resolution Independent Curve Rendering Using Programmable Graphics Hardware
Charles Loop
Jim Blinn
Microsoft Research

Realtime GPU Subdivision Kernel
Le-Jeng Shiue
Ian Jones
Jörg Peters
University of Florida

GPU-Based Trimming and Tessellation of NURBS and T-Spline Surfaces
Michael Guthe
Ákos Balázs
Reinhard Klein
Universität Bonn

Blister: GPU-Based Rendering of Boolean Combinations of Free-Form Triangulated Shapes
John Hable
Jarek Rossignac
Georgia Institute of Technology

8:30 – 10:15 am
Transparency & Translucency

Session Chair: George Drettakis, REVES/INRIA

Light Diffusion in Multi-Layered Translucent Materials
Craig Donner
Henrik Wann Jensen
University of California, San Diego

A Practical Analytic Single Scattering Model for Real Time Rendering
Bo Sun
Ravi Ramamoorthi
Columbia University

Srinivasa Narasimhan
Carnegie Mellon University

Shree Nayar
Columbia University

An Approximate Image-Space Approach for Interactive Refraction
Chris Wyman
University of Iowa

Modeling and Rendering of Quasi-Homogeneous Materials
Xin Tong
Microsoft Research Asia

Jiaping Wang
Institute of Computing Technology, CAS

Steve Lin
Baining Guo
Heung-Yeung Shum
Microsoft Research Asia

10:30 am – 12:15 pm
Styles of Human Motion

Session Chair: Jehee Lee, Seoul National University

Geostatistical Motion Interpolation
Tomohiko Mukai
Shigeru Kuriyama
Toyohashi University of Technology

Learning Physics-Based Motion Style With Nonlinear Inverse Optimization
C. Karen Liu
University of Washington

Aaron Hertzmann
University of Toronto

Zoran Popović
University of Washington

Style Translation for Human Motion
Eugene Hsu
Massachusetts Institute of Technology Computer Science and Artificial Intelligence Laboratory

Kari Pulli
Nokia/Massachusetts Institute of Technology Computer Science and Artificial Intelligence Laboratory

Jovan Popović
Massachusetts Institute of Technology Computer Science and Artificial Intelligence Laboratory

A Data-Driven Approach to Quantifying Natural Human Motion
Liu Ren
Carnegie Mellon University

Alton Patrick
Georgia Institute of Technology

Alexei Efros
Jessica K. Hodgins
Carnegie Mellon University

James Rehg
Georgia Institute of Technology

Thursday, 4 August

10:30 am – 12:15 pm
Appearance & Illumination

Session Chair: Julie Dorsey, Yale University

Lightcuts: A Scalable Approach to Illumination
Bruce Walter
Sebastian Fernandez
Adam Arbree
Kavita Bala
Michael Donikian
Donald P. Greenberg
Cornell University

Fast and Detailed Approximate Global Illumination by Irradiance Decomposition
Okan Arikan
David Forsyth
James F. O'Brien
University of California, Berkeley

A Frequency Analysis of Light Transport
Frédo Durand
Massachusetts Institute of Technology, Computer Science and Artificial Intelligence Laboratory

Nicolas Holzschuch
Cyril Soler
ARTIS, GRAVIR/IMAG – INRIA

Eric Chan
Massachusetts Institute of Technology, Computer Science and Artificial Intelligence Laboratory

François X. Sillion
ARTIS, GRAVIR/IMAG – INRIA

Visual Simulation of Weathering by gamma-ton Tracing
Yanyun Chen
Microsoft Research Asia

Lin Xia
Zhejiang University
Tien Tsin Wong
Chinese University of Hong Kong

Xin Tong
Microsoft Research Asia

Hujun Bao
Zhejiang University

Baining Guo
Heung-Yeung Shum
Microsoft Research Asia

1:45 – 3:30 pm
Shape & Texture

Session Chair: David Ebert, Purdue University

As-Rigid-As-Possible Shape Manipulation
Takeo Igarashi
The University of Tokyo

Tomer Moscovich
John F. Hughes
Brown University

A Sketch-Based Interface for Detail-Preserving Mesh Editing
Andrew Nealen
Technische Universität Darmstadt

Olga Sorkine
Tel Aviv University

Marc Alexa
Technische Universität Darmstadt

Daniel Cohen-Or
Tel Aviv University

TextureMontage: Seamless Texturing of Arbitrary Surfaces From Multiple Images
Kun Zhou
Xi Wang
Microsoft Research Asia

Yiying Tong
Mathieu Desbrun
California Institute of Technology

Baining Guo
Heung-Yeung Shum
Microsoft Research Asia

1:45 – 3:30 pm
Ray Tracing

Session Chair: Nelson Max, Lawrence Livermore National Laboratory

Soft Shadow Volumes for Ray Tracing
Samuli Laine
Helsinki University of Technology

Timo Aila
Helsinki University of Technology and Hybrid Graphics Ltd.

Ulf Assarsson
ARTIS INRIA and Illuminate Labs Ltd.

Jaakko Lehtinen
Helsinki University of Technology and Remedy Entertainment Ltd.

Tomas Akenine-Möller
Lunds universitet

Wavelet Importance Sampling: Efficiently Evaluating Products of Complex Functions
Petrik Clarberg
Lunds universitet

Wojciech Jarosz
University of California, San Diego

Tomas Akenine-Möller
Lunds universitet

Henrik Wann Jensen
University of California, San Diego

Multi-Level Ray Tracing Algorithm
Alexander Reshetov
Alexei Soupikov
Jim Hurley
Intel Corporation

Unbiased Energy Redistribution Path Tracing
David Cline
Justin Talbot
Parris Egbert
Brigham Young University

Thursday, 4 August

3:45 – 5:30 pm
Precomputed Light Transport

Session Chair: Wolfgang Heidrich,
The University of British Columbia

Precomputed Shadow Fields for Dynamic Scenes

Kun Zhou
Yaohua Hu
Steve Lin
Baining Guo
Heung-Yeung Shum
Microsoft Research Asia

All-Frequency Interactive Relighting of Translucent Objects With Single and Multiple Scattering

Rui Wang
John Tran
David Luebke
University of Virginia

Precomputed Local Radiance Transfer for Real-Time Lighting Design

Anders Wang Kristensen
University of California, San Diego

Tomas Akenine-Möller
Lunds universitet

Henrik Wann Jensen
University of California, San Diego

Local, Deformable Precomputed Radiance Transfer

Peter-Pike Sloan
Ben Luna
Microsoft Corporation

John Snyder
Microsoft Research

panels

Agree or disagree with outspoken advocates on every side of controversies that affect our digital future. Panelists discuss, confer with, and debate each other in a free-flowing format that generates consensus, controversy, confusion, and clarity – sometimes simultaneously.

Panelist position papers are presented in the Full Conference DVD-ROM that Full Conference attendees receive with their registration.

Full Conference registration allows attendees access to all Panels. Seating is on a first-come, first-served basis. Please be sure to arrive early for Panel sessions you wish to attend.

Monday, 1 August

Ubiquitous Music: How Are Sharing, Copyright, and Really Cool Technology Changing the Roles of the Artist and the Audience?
Monday, 8:30 – 10:15 am

Since the 1970s, when the Walkman liberated music, we've moved on to iPods and mobile phones, which define contemporary social music experiences. How will we listen to music tomorrow? Because music is often a technological harbinger (digital representation, work-station editing, and optical storage came to sound before its media counterparts), this panel looks beyond current debates on copyright and presents new forms of music creation, listening, and sharing. It sheds light on ubiquitous content and social-interaction models afforded by mobile technologies.

Panelists from all segments of this nascent industry discuss current and future systems; the technical, artistic, and legal ramifications of sharing; new paradigms; and the roles of artists and listeners in the creative process.

Moderators
Lars Erik Holmquist
Viktoria Institute

Atau Tanaka
Sony CSL Paris

Panelists
Akseli Anttila
Nokia Corporation

Arianna Bassoli
London School of Economics and Political Sciences

Gideon D'Arcangelo
New York University

Lalya Gaye
Viktoria Institute, Future Application Lab

Networked Performance: How Does Art Affect Technology and Vice Versa?
Monday, 3:45 – 5:30 pm

An exploration of the worlds of per-formance, social collaboration, and play. Artists, technologists, educators, and scientists converse on all manner of computationally dependent cultural practices, including wireless culture, location technologies (GPS), grid com-puting, sensing, and reactive (sensor-based) interactivity. Mobile computing and network practice cut across all aspects of practice and research, engaging optimization, visualization, tool creation, hacking, etc.

Moderators
Michelle Riel
California State University, Monterey Bay

Helen Thorington
turbulence.org

Panelists
Julian Bleecker
University of Southern California

Susan Kozel
Simon Fraser University

Martin Rieser
Bath Spa University College

Andrea Zapp
Manchester Metropolitan University

Tuesday, 2 August

International CG Collaboration: Good, Bad, or Just Impossible?
Tuesday, 10:30 am – 12:15 pm

We live, work, and collaborate in a global economy. Some artists move overseas to find work. Some local supervisors hire artists and companies in other countries to produce work for local productions. Some local companies are creating entire subsidiaries in other countries for local productions. The implications are vast. Far beyond time and language differences, cultural differences are sometimes insurmountable, but global production brings income and untold opportunities to all kinds of artists and technologists throughout the world. In this panel, supervisors, producers, and artists from all over the globe convene to talk about the good, bad, and impossible of outsourcing creativity and production.

Moderator
Frank Foster
Tigar Hare Studios

Panelists
Carlos Arguello
StudioC

Evan Hirsch
Immaginare

Jai Natarajan

Bill Schultz
Taffy Entertainment/Mike Young Productions

Rajesh Turakhia
Maya Entertainment Ltd

The Open-Source Movement and the Graphics Community: How Can Open-Source, Third Party, and Proprietary Software Models Coexist?
Tuesday, 1:45 – 3:30 pm

In recent years, the open-source movement has increased dramatically. Harnessing the power of thousands of developers and testers has proven successful, to varying degrees, in developing operating systems, graphics applications, and web tools, including Linux, POV-Ray, Blender, Gimp, and Apache. In this session, developers of open-source software, in-house proprietary software, and commercial software, and practitioners who encounter all kinds of software discuss whether the open-source model is relevant and useful to the graphics community? Does the model of proprietary application research, development, and usage serve the industry better? Or will commercial facilities continue to primarily choose off-the-shelf solutions? Can all models work together?

Moderator
Gil Irizarry
Conoa, Inc.

Panelists
Florian Kainz
Industrial Light & Magic

James Mainard
DreamWorks Animation

Daniel Maskit
Digital Domain

Ton Rooosendaal
Blender Foundation

William Schroeder
Kitware, Inc.

Wednesday, 3 August

Believable Characters: Are AI-Driven Characters Possible, and Where Will They Take Us?
Wednesday, 10:30 am – 12:15 pm

Processing power is increasing as fast as player expectations, which raises far more questions than answers:

- Where are we (and our characters) going with artificial intelligence?

- How is interactive entertainment changing in games for Playstation3, Xbox2, and massive multiplayer, online role-playing environments?

- How does AI affect development of emotionally believable characters?

- How can we prioritize and balance graphic techniques to support perceived realism in a character?

- Are there rules or guidelines we can distill from the more successful game characters?

- What are the subliminal tip-offs that spoil the illusion of credible characters?

In this panel, industry experts, artists, character animators, and programmers share their insights and help us sift through the graphics-technology clutter to uncover some believable character gems and answer some fundamental questions.

Moderator
Stephen Gray
Electronic Arts

Panelists
Eric Armstrong
Electronic Arts Canada

Gregory Garvey
Quinnipiac University

Andrew Stern
InteractiveStory.net

Frank Vitz
Electronic Arts

Wednesday, 3 August

From University Lab to Movie Screen and Back Again: How Does Research Change Production Tools, and How Do Production Needs Influence Academic Research?

Wednesday, 3:45 – 5:30 pm

How and when do academic research ideas make their way into feature animation and visual effects production facilities? What kinds of graphics research ideas have made good production tools, and how are they transformed by practical experience and needs? What pressing production issues should be considered in academic circles? To what extent is the industry using standardized tools, which might be slowing adoption of new techniques? How are intellectual property issues resolved? How could academia and industry work together more closely to bridge the gaps? Panelists from academia and production explore these and other issues in this vital relationship.

Moderator
Daniel Goldman
University of Washington

Panelists
Tony DeRose
Pixar Animation Studios

Andrew Hendrickson
PDI/Dreamworks

Barbara Mones
University of Washington

Paul Salvini
Side Effects Software Inc.

Steve Sullivan
Industrial Light & Magic

Thursday, 4 August

The Ultimate Display: What Will It Be?

Thursday, 8:30 – 10:15 am

The invention of television radically shaped the 20th century. Today, we view most of our visual entertainment on new and innovative displays. This panel examines future trends in display technology, ranging from stereoscopic and autostereoscopic techniques, holography, and 3DTV to projector-based concepts. Leading experts from science and industry discuss possibilities, developments, and limitations of tomorrow's displays; fundamental facts; and emerging trends and applications in entertainment, science, and education.

Moderator
Oliver Bimber
Bauhaus-Universität Weimar

Panelists
Neil Dodgson
University of Cambridge Computer Laboratory

Gregg Favalora
Actuality Systems, Inc.

David Luebke
University of Virginia

Ramesh Raskar
Mitsubishi Electric Research Laboratories (MERL)

Chris Slinger
QinetiQ

WWAI: How is the Web Growing? Into a Social Super-Organism or a Mass of Disconnected Information?

Thursday, 1:45 – 3:30 pm

While the World Wide Web could become the nerve center for a social super-organism, it remains frustratingly rudimentary. Documents lack uniformity and integration; linking is unintelligent and unstable; interaction is limited, controlled by authors and browsers. However, things are changing. Advances in artificial intelligence could be applied to the WWW, transforming it to a globally distributed, massively parallel, wetware-oriented universe. Panelists from all areas of web development discuss this and other possibilities for the future of the web.

Moderator
Robert B. Lisek
Fundamental Research Lab

Panelists
Franco Birkut
0100101110101101.ORG

Hans Bernhard
UBERMORGEN.COM

Jonah Brucker-Cohen
Trinity College Dublin

Martha Carrer Cruz Gabriel
Universidade de São Paulo

Monika May

committees

ACM SIGGRAPH is a diverse group of researchers, artists, developers, filmmakers, scientists, and other professionals, who share an interest in computer graphics and interactive techniques. The community values excellence, passion, integrity, volunteerism, and cross-disciplinary interaction. ACM SIGGRAPH sponsors not only the annual SIGGRAPH conference, but also focused symposia, chapters in cities throughout the world, awards, grants, educational resources, online resources, a public policy program, a traveling art show, and the SIGGRAPH Video Review. For additional information about ACM SIGGRAPH: www.siggraph.org

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attendee services

ACM SIGGRAPH Membership
ACM SIGGRAPH is the world's premier association for the generation and dissemination of information on computer graphics and interactive techniques. Membership in this professional organization is a networking bonanza, as well as informative and educational. The opportunities to broaden, as well as to contribute your expertise of the business, technology and the future of the industry are boundless. Become a member of ACM SIGGRAPH, and share in the excellence, passion, integrity, volunteerism, and cross disciplinary interaction that we proudly represent. For additional ACM SIGGRAPH membership information: www.siggraph.org

Bookstore
BreakPoint Books offers the latest books and CD-ROMs on computer animation, graphic design, gaming, 3D graphics, modeling, and digital lighting. The bookstore features recent books by SIGGRAPH 2005 speakers and award winners. To suggest books and CD-ROMs that should be available in the bookstore, contact:

BreakPoint Books
800.968.9622
+1.440.236.5686 fax
www.breakpointbooks.com
dave@breakpointbooks.com

Child Care
Important Notice:
Child Care will NOT be provided at SIGGRAPH 2005.

Job Fair
The Art Institutes are sponsoring the ACM SIGGRAPH 2005 Job Fair for the leading companies in all related ACM SIGGRAPH fields to discuss employment opportunities with thousands of SIGGRAPH 2005 attendees in a relaxed, informal setting. All registered SIGGRAPH 2005 attendees are welcome to attend the Job Fair at no additional cost.

New Free Online Recruitment & Job Postings
In 2005, ACM SIGGRAPH is partnering with Creative Heads.net (an online recruitment software company specializing in the video game, animation and visual f/x, 3D technology, and software tools industries) to offer all SIGGRAPH 2005 exhibitor and job fair companies* free online recruitment services and all job seekers free online job search services. For more information, visit www.creativeheads.net.

*Recruiter companies are excluded from becoming members of CreativeHeads.net or participating in ACM SIGGRAPH/CreativeHeads.net free online recruitment services program.

Pathfinders
Sunday - Thursday, 31 July – 4 August
Let us help you maximize your visit to SIGGRAPH 2005! First-time or frequent attendee, it doesn't matter, there is too much to do and see. Stop by the Pathfinders booth and let us help you find your own path. If you have questions before the conference, have feedback to offer, or would like to volunteer a couple hours of your time to help us out, please send email to pathfinder@siggraph.org.

attendee services

Shipping Desk
For your convenience, a shipping desk is located in the registration area at SIGGRAPH 2005. It provides next-day air, second-day air, and regular ground shipping services to destinations throughout the world.

Shuttle Service
SIGGRAPH 2005 provides complimentary shuttle service between most conference hotels and the Los Angeles Convention Center. Check the shuttle flyer and signs in the hotel lobbies for exact details. If you require special transportation assistance, please call The Convention Store, SIGGRAPH's official shuttle company (ask for Sean Higgins), at: 800.285.0001.

Special Policies
- Registered attendees under the age of 16 must be accompanied by an adult at all times.
- Children under 16 are not permitted in the Exhibition. Age verification is required.
- No cameras or recording devices are permitted at SIGGRAPH 2005. Abuse of this policy will result in the loss of the individual's registration credentials.
- Food and beverages cannot be brought into Electronic Theater performances.

Los Angeles Convention Center

1201 South Figueroa Street
Los Angeles, California 90015

Accessibility
The convention center is handicap accessible. If you have special needs or requirements, please call Conference Management at: **+1.312.644.6610.**

Business Center
The Business Service Center located in the Los Angeles Convention Center offers the following services: faxing, copying, shipping/receiving, and office supplies.

Food Services
Several restaurants and food carts are available throughout the convention center for the convenience of SIGGRAPH 2005 attendees.

Parking
SIGGRAPH 2005 attendees can park at the Los Angeles Convention Center for $10 per day. There are no in/out privileges. The Los Angeles Convention Center parking garages located in the West and South Halls open at 5:30 am and close one hour after the conclusion of the last scheduled SIGGRAPH 2005 function.

Additional Parking Facilities
Ampco Systems (Grand Garage)
240 West Venice Boulevard
+1.213.746.2983

Parking Concepts Inc.
800 Wilshire Boulevard
+1.213.623.2661

Ampco Systems Parking
Transamerica Center
1133 South Olive Street
+1.213.742.4005

housing & travel

Hotel Reservations
SIGGRAPH 2005 has negotiated discount rates for hotels in downtown Los Angeles. These discounts are available to SIGGRAPH 2005 attendees only. Please make your hotel reservation by 5 July. Reservations made after 5 July will be based on availability only.

Visit the SIGGRAPH 2005 web site **(www.siggraph.org/s2005/travhouse)** to access the easy to use online hotel reservation system, which includes complete information on housing policies, procedures, and rates.

Or contact:
SIGGRAPH 2005 Housing
c/o ITS
108 Wilmot Road Suite 400
Deerfield, Illinois 60015 USA
800.974.9833 (Continental US and Canada)
+1.847.282.2529
+1.847.940.2386 fax
siggraph@itsmeetings.com

Attendees who use the SIGGRAPH 2005 hotel reservation system receive a very rewarding booklet of discount coupons for downtown LA:
• The best coffee outlets
• Excellent restaurants and bars
• Most museums and concert halls
• The best business centers
• Exceptional salons and shops

During the conference, the housing desk at the LA Convention Center distributes the coupon booklet to attendees who reserved their hotel rooms through ITS.

Air Travel
ITS, the official travel coordinator for SIGGRAPH 2005, provides custom itineraries with the best routing and travel times available.

Fly on the official airline, United Airlines, and save on special discounts unavailable to the general public.

U.S. and Canada: United Airlines offers a 10% discount off the lowest applicable published fare when you book and ticket 30 days or more prior to travel. Save 5% off the lowest applicable published fare when you book within 29 days of travel. Discounts apply on all United, United Express, Ted, and UA code share flights (UA*) operated by US Airways, US Airways Express, and Air Canada. Applicable restrictions must be met.

To receive the exclusive discounts, call ITS toll-free:
800.621.1083 (US and Canada)
Email: airtravel@itsmeetings.com
8 am to 5 pm, Central time, Monday through Friday.

A nominal $20 service fee is charged per airline ticket issued. Save $5.00 when you book online.

Or call United Airlines directly:
800-521-4041 and reference ID #522YB.

Book early to take advantage of promotional fares that offer the greatest discount.

Hertz Rental Car
Hertz is the official car rental company for SIGGRAPH 2005. For reservations, call I.T.S. or Hertz at:
ITS: 800.621.1083 (US and Canada)
Hertz: 800.654.2240 (US only); 800.263.0600 (Canada only)
+1.416.620.9620 (Toronto); +1.405.749.4434. (all other areas)
Or reserve your car online: **www.hertz.com**

Refer to: CV#010L0047.

Metro Rail
The best alternative to congested freeways and expensive parking. Metro Rail offers convenient service from Los Angeles International Airport to the convention center and downtown hotels. From downtown, Metro Rail subways provide quick access to Pasadena, Hollywood, and Universal City.

Los Angeles
Downtown Los Angeles is much more than major hotels, soaring office towers, and the LA Convention Center. Its historic districts, restaurants, clubs, and cultural institutions are all within an easy walk or short cab ride of the SIGGRAPH 2005 hotels.

For complete information on LA's tourist attractions, contact:
LA INC. The Convention and Visitors Bureau
333 South Hope Street, 18th Floor
Los Angeles, California 90071 USA
+1.213.689.8822

accommodations

Downtown Los Angeles

A 14% tax per night is added to all hotel bills in Los Angeles. Room occupancy taxes are subject to change. Early departure fees may apply. Prices listed are per night.

		single ($)	double ($)
★	Headquarters: Wilshire Grand Los Angeles	151	151
1	Hilton Checkers Los Angeles	145	145
2	Holiday Inn City Center	140	140
3	Hyatt Regency Los Angeles	149	149
4	Kawada Hotel	106	116
5	Los Angeles Marriott Downtown	152	152
6	The Mayfair Hotel	92	92
7	Millennium Biltmore Hotel	147	147
8	Miyako Hotel Los Angeles	125	140
9	New Otani Hotel and Garden	143	143
10	Omni Los Angeles Hotel at California Plaza	153	153
11	Quality Inn & Suites - Downtown Los Angeles	68	68
12	Radisson Wilshire Plaza	120	120
13	Ramada Inn - Los Angeles Downtown	68	72
14	Ritz Milner Hotel	*79/99	*79/99
15	Standard Downtown Los Angeles	153	153
16	Vagabond Inn Figueroa	105	115
17	Westin Bonaventure Hotel and Suites	161	171

* $79, single/double, double bed; $99, single/double, king bed

● **Full Conference**   ◐ **Conference Select**   ○ **Exhibits Plus**

One Day registration includes access to conference programs and events. It does not include technical documentation or tickets for the reception and Electronic Theater.

Presentations, Experiences, Services, and Documentation Included With Your SIGGRAPH 2005 Registration

Presentations

●   Courses

●   Papers

●   Panels

●◐   Sketches

●◐○   Posters

●◐   Web Program

●◐   Educators Program

●◐○   *Keynote Address/Awards

●◐   Special Sessions

●◐○   Special Events

●◐○   Exhibitor Tech Talks

Experiences

●◐○   Art Gallery: Threading Time

          Computer Animation Festival

●   Electronic Theater Ticket - Any Show

●◐   Electronic Theater Matinée Ticket

●◐○   Animation Theater

●◐○   Emerging Technologies

●◐○   Guerilla Studio

●   Reception

Services

●◐○   Birds of a Feather

●◐○   Get Involved

●◐○   International Resources

●◐○   Job Fair

●◐○   Pathfinders

Documentation

●   ACM *Transactions on Graphics* (Conference Proceedings special issue)

●   Full Conference DVD-ROM

●◐   Electronic Art & Animation Catalog

  ◐   Conference Select CD ROM

*Conference Select and Exhibits Plus attendees will have access to the Keynote Address via closed circuit TV.

Technical Materials

Full Conference and Conference Select registrants must pick up conference technical materials included with registration at the SIGGRAPH 2005 Merchandise Pickup Center. Shipping services are available at SIGGRAPH 2005. Unclaimed technical materials will not be shipped after the conference. All the technical publications are also available for sale in the SIGGRAPH 2005 Store and Boutique.

Full Conference DVD-ROM

This digital publication contains the electronic version of the technical papers, images, and supplemental material; all of the course and tutorial notes, including supplemental material (movies, source code, HTML presentations); and the permanent record of the Educators Program, Emerging Technologies, Panels, Sketches, Special Sessions, and Web Program; along with the permanent record of the Art Gallery: Threading Time and Computer Animation Festival.

ACM Transactions on Graphics (Conference Proceedings special issue) – Printed

Contains the SIGGRAPH 2005 technical papers and the ACM SIGGRAPH awards.

Conference Select CD-ROM

This digital publication contains the permanent record of the Art Gallery: Threading Time and Computer Animation Festival and the electronic version of the Educators Program, Emerging Technologies, Sketches, Special Sessions, and Web Program. Papers, Panels, and Courses are available only on the Full Conference DVD-ROM.

Electronic Art & Animation Catalog – Printed

Contains the permanent record of images from the Art Gallery: Threading Time and the Computer Animation Festival.

Merchandise

To purchase gifts for family, friends, colleagues, and yourself, order your merchandise in advance through the SIGGRAPH 2005 Registration Form on page 43. SIGGRAPH 2005 merchandise is available on a first-come, first-served basis. To see images of these items, visit the SIGGRAPH 2005 web site: **www.siggraph.org/s2005**

All SIGGRAPH 2005 documentation (see chart at left) including the SIGGRAPH Video Review is available for sale after the conference.

To order, contact:
ACM Order Department
800.342.6626 (Continental US & Canada)
+1.212.626.0500 (International)
+1.212.944.1318 fax
orders@acm.org

SIGGRAPH Video Review

SIGGRAPH Video Review is the world's most widely circulated video-based publication. Over 150 programs, document the annual SIGGRAPH Computer Animation Festival, providing an unequalled opportunity to study state-of-the-art computer graphics techniques, theory and applications. New release and recent issues available in DVD format. Visit the SIGGRAPH Review booth near the SIGGRAPH 2005 Store. For information, contact: **svrorders@siggraph.org**

Registration Form

www.siggraph.org/s2005

Part 1 Attendee Information

○ Member or Student Member (SM): Membership Number _____   ○ Non-Member (NM)

First Name _____   Last Name _____

Job Title _____   Organization _____

Address _____

City _____   State/Province _____   Country _____   Postal Code _____

Telephone (Include all country, area, and city codes.) Fax _____   Email _____

○ Check if you do not want your contact information made available to exhibitors.

Your primary business focus:
Check only one:
a ○ Animation/Special Effects
b ○ Digital Video
c ○ Educator
d ○ Engineer
e ○ Game Developer
f ○ Graphic Arts/Design
g ○ Researcher/Scientist
h ○ Software Developer/Programmer
i ○ Web Developer/eCommerce
yy ○ Other: _____

Products and services you use, recommend, specify, or purchase annually:
Check all that apply:
j ○ Animation
k ○ Business/PC Graphics
l ○ CAD/CAM/CAE/CIM/Robotics
m ○ Desktop/Other Publishing
n ○ Digital Video
o ○ Fine Arts/Graphic Design
p ○ Grid Applications
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r ○ Multimedia/Hypermedia

s ○ Scan Converters/Scanners
t ○ Scientific Visualization
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x ○ Web Graphics/Development
y ○ Workstations
z ○ Other: _____

Rate your buying influence:
Check only one:
aa ○ Final Decision
bb ○ Specify/Recommend
cc ○ No Role

Is this your first SIGGRAPH?:
dd ○ yes
ee ○ no

Part 2 Registration Category   Registration Fee Subtotal $ _____

Register for one category only:

Full Conference (FULL)
Received by 18 June:
○ Member $750   ○ Non-Member $825   ○ Student $395
Received by 16 July:
○ Member $925   ○ Non-Member $1000   ○ Student $450
At SIGGRAPH 2005:
○ Member $1025   ○ Non-Member $1100   ○ Student $500
Electronic Theater Ticket:
You must rank your time preference:
___ Monday 7 pm (670)
___ Tuesday 1:30 pm (671)
___ Tuesday 7 pm (672)
___ Wednesday 1:30 pm (673)
___ Wednesday 7 pm (674)

Conference Select (CS)
Received by 18 June:
○ Member $220   ○ Non-Member $240   ○ Student $220
Received by 16 July:
○ Member $250   ○ Non-Member $270   ○ Student $250
At SIGGRAPH 2005:
○ Member $280   ○ Non-Member $300   ○ Student $280
Electronic Theater Ticket:
You must rank your time preference:
___ Tuesday 1:30 pm (671)
___ Wednesday 1:30 pm (673)

One Day (OD)
Received by 18 June:
○ $300
Received by 16 July:
○ $350
At SIGGRAPH 2005:
○ $385
Days in Attendance:
Check up to two:
○ Sunday (SUN)
○ Monday (MON)
○ Tuesday (TUES)
○ Wednesday (WED)
○ Thursday (THUR)
○ Undecided (ODU)

Days _____ x $ _____ = $ _____

Exhibits Plus (EP)
Received by 18 June:
○ $75
Received by 16 July:
○ $85
At SIGGRAPH 2005:
○ $95

Part 3 Merchandise   Merchandise Subtotal $ _____

Item	Item#	Quantity	x	Cost	=	Subtotal
Baseball Cap	Item# (490)	Quantity ____	x	Cost $10	=	Subtotal $ ____
T-shirt	Item# (500)	Quantity ____	x	Cost $18	=	Subtotal $ ____
Polo Shirt	Item# (520)	Quantity ____	x	Cost $35	=	Subtotal $ ____
Coffee Mug	Item# (525)	Quantity ____	x	Cost $13	=	Subtotal $ ____
Youth T-shirt	Item# (560)	Quantity ____	x	Cost $13	=	Subtotal $ ____
Shoulder Bag	Item# (570)	Quantity ____	x	Cost $25	=	Subtotal $ ____
SIGGRAPH 2005 Video Review Set (DVD) Member	Item# (601)	Quantity ____	x	Cost $120	=	Subtotal $ ____
SIGGRAPH 2005 Video Review Set (DVD) Non-Member	Item# (601)	Quantity ____	x	Cost $180	=	Subtotal $ ____

SIGGRAPH 2005 Merchandise and Video Reviews MUST BE PICKED UP AT SIGGRAPH 2005 in the Merchandise Pickup Center.

Part 4 Electronic Theater Ticket Purchase   Electronic Theater Ticket Subtotal $ _____

Please rank your preference:
___ Monday 7-9 pm (770)   ___ Tuesday 1:30-3:30 pm (771)   ___ Tuesday 7-9 pm (772)   ___ Wednesday 1:30-3:30 pm (773)   ___ Wednesday 7-9 pm (774)

One ticket is already included with Full Conference and Conference Select registrations.
Registrants in any category can purchase one additional ticket.

Quantity (1) x Cost $50 = Subtotal $50

Part 5 Credential Mailing   Mailing Charges Subtotal $ _____

Two-day express mail to: ○ Continental US/Canada. Cost: $15 per person (990)   ○ Outside continental US/Canada. Cost: $30 per person (991)
IMPORTANT: Credential mailing instructions and deadlines on reverse side of this form.

Part 6 Processing Fee For fax or mail (992)   Processing Fee Subtotal $ 15

Part 7 Payment Information   Total Amount Due $ _____

○ Check or money order is enclosed, payable to SIGGRAPH 2005.
○ American Express   ○ MasterCard   ○ Visa   Credit card # _____   Expiration date _____

Name _____

Signature _____
(I authorize payment for the amount due for this registration to be processed as I have indicated.)

Registration Instructions & Policies

Complete all information on the registration form noting the following instructions and policies.

Part 1 Attendee Information

Member Rate: If you are currently an ACM or ACM SIGGRAPH member, you are eligible for member discounts. You must provide your current ACM or ACM SIGGRAPH membership number in order to receive the discount, otherwise you will be charged the non-member rate. Local or regional ACM SIGGRAPH memberships are not eligible for registration discounts.

Students: You must be a full-time student in order to qualify. You must provide your 2005 ACM student membership number to qualify for student rates (this applies for those registering in advance as well as at the conference).

Failure to provide valid information will result in you being charged the non-member rate. For membership and student verification inquiries, please contact the SIGGRAPH 2005 registration center: registration@siggraph.org

Note: Your badge will include your name, organization, city, state, and country as indicated on your registration form.

Part 2 Registration Category

Refer to page 42 for programs, activities, and conference documentation included with each registration category.
Register for one category only.

Part 3 Merchandise

All SIGGRAPH 2005 technical materials and merchandise must be picked up at the conference at the Merchandise Pickup Center. No refunds will be given for items that are not claimed at the conference, nor will unclaimed items be shipped after the conference.

Part 4 Electronic Theater Ticket Purchase

One Electronic Theater ticket is included with Full Conference and Conference Select registrations. Registrants in any category can purchase one additional ticket. Please rank your preference, as tickets are issued on a first-come, first-served basis. No refunds. If you do not receive your first ticket choice, a limited number of tickets will be available for exchange at SIGGRAPH 2005 at the Ticket Exchange Counter in the registration area.

Part 5 Credential Mailing

If you would like to receive your badge in advance of the conference via express carrier, the following instructions apply:

- Select and include payment for the appropriate credential mailing option on the registration form.
- Your registration and payment must be received by Saturday, 18 June.
- Student and member status must be fully verified with ALL documentation by Saturday, 18 June.
- Your registration must be paid in full.
- You must provide us with a street address as express carriers do not deliver to P.O. boxes.

If the above instructions are followed, your badge will be mailed two-day service starting the week of 25 April.

Credential Mailing Policies
- All prices are per person.
- SIGGRAPH 2005 is not responsible for lost credentials for which we have a carrier receipt that shows the package was received.
- Should your credentials be lost prior to arriving at the conference or should you forget to bring them, you will need to repay your registration fee and you will NOT receive a refund.

Part 6 Processing Fee

This fee must be paid in full before your registration credentials can be released.

Part 7 Payment Information

- Verify that subtotals add up correctly, and enclose payment.
- Checks and money orders ($US only) should be made payable to SIGGRAPH 2005.
- Credit card payments must include a signature.
- Purchase orders are NOT accepted as payment.
- Forms will not be processed without accompanying payment in full.
- Do not send more than one registration form or it may result in duplicate billing.

Part 8 Special Requirements

SIGGRAPH 2005 wants you to enjoy and experience the conference to its fullest. Some special requirements may take significant time to arrange. To assist SIGGRAPH 2005 in accommodating your needs, please notify us by 16 July. Describe your needs in the space provided below.

A Note About Faxing: We strongly recommend faxing your form well in advance of the Saturday, 18 June deadline. Fax volume increases as the deadline approaches, and SIGGRAPH 2005 is NOT responsible for faxes not received due to busy telephone lines. Keep a copy of your fax transmission report to verify that your fax was transmitted successfully by the deadline in the event of a problem.

Important Dates

Saturday, 18 June

Advance Early Registration Deadline
Registration forms must be received (and full payment included) on or before this date in order to be eligible for advance early registration fees and to receive any mailed credentials.

Saturday, 16 July

Advance Late Registration Fee Deadline
Registration forms must be received (and full payment included) on or before this date in order to be eligible for advance late registration fees.

Refund Deadline
Cancellation requests for refunds must be made in writing and received on or before Saturday, 16 July. No refunds will be issued after this date. There is a refund processing fee of $US 75. Exhibits Plus registrations are not refundable.

Substitutions
Substitutions must be made in writing and received before Saturday, 16 July in order to be processed in advance. Email requests to SIGGRAPH 2005 Registration Management at the address below. In order to request a substitution at SIGGRAPH 2005, you must present, at the special assistance desk, a written request on company letterhead in addition to any previously mailed meeting credentials.

For more information, contact:
SIGGRAPH 2005
Registration Management
877.244.4432
+1.301.698.2510
+1.301.694.5124 fax
registration@siggraph.org

For ACM SIGGRAPH Membership Information, contact:
ACM
+1.212.626.0500
+1.212.944.1318 fax
acmhelp@acm.org

Send form to SIGGRAPH 2005 as follows:

Mail form and payment to:
SIGGRAPH 2005
P.O. Box 809130
Chicago, Illinois 60680-9130 USA

or

Fax the registration form to:
+1.301.694.5124

or

Register online: www.siggraph.org/s2005

SIGGRAPH2005

ACM Student Research Competition

Tuesday, 2 August, 3:45 – 5:30 pm

Sponsored by Microsoft Research, the ACM Student Research Competition is an internationally recognized opportunity for undergraduate and graduate researchers to:

- **Share research results**
- **Exchange ideas and gain new insights**
- **Meet and talk with academic and industry luminaries**
- **Understand the possible, practical applications of their research**
- **Perfect their communications skills**

Finalists will be selected to present a talk on Tuesday, 2 August, 3:45 – 5:30 pm at SIGGRAPH 2005. For more detailed information: www.siggraph.org/s2005

Call for Volunteers

ACM SIGGRAPH relies heavily on volunteers to plan and produce the premier international conference on computer graphics and interactive techniques. Volunteer opportunities for this vibrant event include: future conference chairs, SIGGRAPH 2006 sub-committee members. SIGGRAPH 2007 program chairs, and additional on-site volunteers for most years. Explore how you can contribute your ideas, energy, and expertise at: www.siggraph.org/volunteering

Co-Located Events

The annual SIGGRAPH conferenc is expanding the number and breadth of co-located workshops and small conferences. Three events are co-located with SIGGRAPH 2005:

Association of Medical Illustrators 60th Annual Conference Workshops: 28 July - 29 July 2005 Conference: 30 July - 1 August 2005 California Lutheran University Los Angeles, California

The Association of Medical Illustrators (AMI) exists to advance right and left brain collaboration in producing visual media that effectively communicates bioscientific concepts. The AMI conference fosters and celebrates this synergy of science and artistry that brings the magic of understanding, and our 2005 program taps LA creative resources that fuel life, business, and art.

For more information and registration: www.ami.org/events/events.php

ACM SIGGRAPH/Eurographics Symposium on Computer Animation 29-31 July 2005 Hyatt Regency Hotel Los Angeles, California

The Symposium on Computer Animation (SCA) is a premier forum for disseminating the latest research results in computer animation. SCA provides an opportunity for computer animation researchers to interact, share

Future Conference Dates

SIGGRAPH 2006 30 July - 3 August 2006 Boston, Massachusetts

SIGGRAPH 2007 5 - 9 August 2007 San Diego, California

new results, show live demonstrations of their work, and discuss emerging research directions for the field.

For more information and registration: www.cs.ucr.edu/rgl/sca

SIGGRAPH/Eurographics Graphics Hardware 2005 30 – 31 July 2005 Wilshire Grand Hotel Los Angeles, California

Graphics Hardware is a highly visible, established international forum for exchanging experience and knowledge related to computer graphics hardware. The event, held annually since 1986, offers a unique perspective on graphics hardware by combining discussions and constructive critique of innovative concepts as well as product-level designs. It is an inclusive forum for the entire graphics hardware community and brings together researchers, engineers, and architects. The program features two days of paper and industry presentations

For more information and registration: www.graphicshardware.org/

Inquiries about co-locating events with the annual SIGGRAPH conference should be directed to:

Barbara Helfer ACM SIGGRAPH Vice President colocated@siggraph.org

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