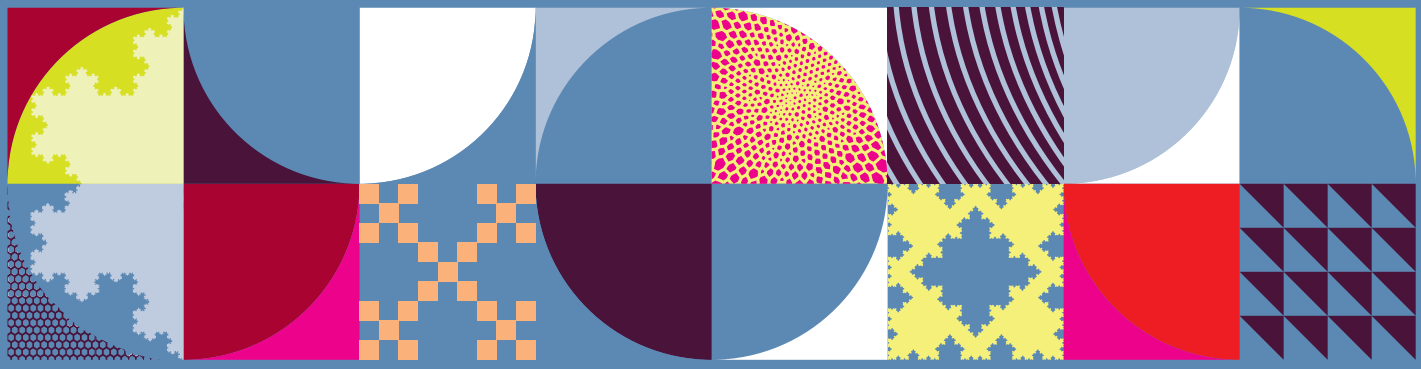
42nd International Conference and Exhibition
on Computer Graphics and Interactive Techniques

Los Angeles Convention Center
Los Angeles, California USA

Advance Program

SIGGRAPH2015

Xroads of Discovery



Conference 9-13 August

Exhibition 11-13 August

Sponsored by ACMSIGGRAPH

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INVITED

Some SIGGRAPH 2015 events and sessions are invited by program chairs and not selected through the normal channels of a comprehensive jury. This is to ensure the conference can address significant topics in computer graphics and interactive techniques.

FIRST-TIMER MOBILE ANIMATION & VFX GAMES AR/VR ARTS EDUCATION PRODUCTION MODELING RESEARCH PHYSICAL 3D

Many SIGGRAPH 2015 programs and events are assigned to focused areas of interest in computer graphics and interactive techniques, and some are especially appropriate for first-time attendees.

Conference at a Glance

Conference Registration Categories

FP Full Conference Platinum
F Full Conference Access
S Select Conference Access
E+ Exhibits Plus
Ex Exhibitors

⚠ Schedule subject to change.

	Saturday, 8 August registration hours: 4-6 pm.	9 August Sunday	10 August Monday	11 August Tuesday	12 August Wednesday	13 August Thursday
	Registration/Merchandise Pickup Center SIGGRAPH Boutique	8:00 am - 6 pm	8:30 am - 6 pm	8:30 am - 6 pm	8:30 am - 6 pm	8:30 am - 3:30 pm
FP F S	ACM SIGGRAPH Award Talks		2 - 3:30 pm			
FP F S E+ Ex	ACM Student Research Competition Final Presentation				3:45 - 5:15 pm	
FP F S E+ Ex	Appy Hour				5 - 7 pm	
FP F S E+ Ex	Art Gallery	noon - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm	9 am - 7 pm	9 am - 1 pm
FP F S E+ Ex	Art Gallery Talks		9 - 10:30 am 2 - 3:30 pm			
FP F S	Art Papers			9 am - 12:15 pm		
FP F S Ex	Birds of a Feather	All week				
FP F S	Computer Animation Festival Electronic Theater		6 - 8 pm		8:30 - 10:30 pm	
FP F S	Computer Animation Festival Daytime Selects		9 am - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm	
FP F	Courses	9 am - 5:15 pm	9 am - 5:15 pm	9 am - 5:15 pm	9 am - 5:15 pm	9 am - 5:15 pm
FP F S	Dailies			3:45 - 5:15 pm		
FP F S E+ Ex	Emerging Technologies	noon - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm	9 am - 7 pm	9 am - 1 pm
FP F S E+ Ex	Exhibition			9:30 am - 6 pm	9:30 am - 6 pm	9:30 am - 3:30 pm
FP F S E+ Ex	Exhibitor Tech Talks			9:30 am - 6 pm	9:30 am - 6 pm	9:30 am - 3:30 pm
FP F S Ex	Exhibits Fast Forward		3:45 - 5:15 pm			
FP F S E+ Ex	International Center	9 am - 6 pm	9 am - 6 pm	9 am - 6 pm	9 am - 6 pm	9 am - 3:30 pm
FP F S E+ Ex	Job Fair			9:30 am - 6 pm	9:30 am - 6 pm	9:30 am - 3:30 pm
FP F S Ex	Keynote Session		***11 am - 12:45 pm**			
FP F S E+ Ex	Making @ SIGGRAPH 2015	noon - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm	9 am - 7 pm	9 am - 1 pm
FP F S E+ Ex	Making @ SIGGRAPH 2015 Course	12:15 - 1:45 pm				
FP F S E+ Ex	The MIX	noon - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm	9 am - 7 pm	9 am - 1 pm
FP F	Panels	9 - 10 am	9 - 10:30 am	2 - 3:30 pm	9 - 10:30 am 3:45 - 5:15 pm	
FP F S E+ Ex	Posters	noon - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm
FP F S E+ Ex	Poster Sessions	All week				
FP F S	Production Sessions		2 - 3:30 pm	10:45 am - 5:15 pm	10:45 am - 3:30 pm	10:45 am - 5:15 pm
FP F S	Real-Time Live!			5:30 - 7:15 pm		
FP F	Reception		8 - 10 pm			
FP F S E+ Ex	Studio & Studio Course and Talks	noon - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm	9 am - 7 pm	9 am - 1 pm
FP F	Talks	10:45 am - 5:35 pm	9 - 10:30 am 3:45 - 5:35 pm	9 am - 5:15 pm	9 am - 5:15 pm	9 am - 5:15 pm
FP F	Technical Papers		9 - 10:30 am 3:45 - 5:35 pm	9 am - 5:35 pm	9 am - 5:35 pm	9 am - 5:35 pm
FP F S	Technical Papers Fast Forward	6 - 8 pm				
FP F S E+ Ex	VR Village	noon - 5:30 pm	9 am - 5:30 pm	9 am - 5:30 pm	9 am - 7 pm	9 am - 1 pm

*Includes ACM SIGGRAPH Award Presentation immediately precedes the Keynote Session

Reasons to Attend

Why SIGGRAPH?

Why spend five or six days away from the office, away from home, when you can improve your skills in your spare time on the web? If you're hearing those questions from your employer, or from friends and family, here are a few answers, plus some real quotes from recent SIGGRAPH attendee surveys:

"It's the most inspiring thing I do every year— the latest cutting-edge everything."

"There is a chance to interact with the creators and the brains behind most of the products we use on a daily basis."

"It is literally mind-blowing in what you will experience."

Learning

At SIGGRAPH 2015, you will learn more in five days than you could at any other conference, or any combination of conferences, anywhere in the world. And you'll learn from the world's leading experts in computer graphics and interactive techniques.

Inspiration

With direct, real-time access to the latest theories, the coolest technologies, and the wisdom of thousands of colleagues and collaborators, you will return from SIGGRAPH 2015 creatively rejuvenated. This is your chance to get out of the office, away from your daily routine, and out from under your email and meet the best minds in the industry.

Expertise

From the Exhibition to the Production Sessions and from Technical Papers to Courses, when people are developing new ideas and emerging technologies, they present them at SIGGRAPH.

Engagement

Interactive is so important to us that it's part of our name. At SIGGRAPH 2015, you'll see, hear, and touch real-time demos by the most technically advanced minds in computer graphics and interactive techniques.

Exclusive

With its breadth of programs and events, only SIGGRAPH 2015 allows you to produce a conference experience that's exclusively yours. The balance of technical presentations with artistic and creative demonstrations is what really makes SIGGRAPH stand out.

Community

Connect with people from everywhere in the world who share your joy in the power of art and science. Interact with artists, researchers, educators, animators, new-comers, and pioneers in computer graphics and interactive techniques.

Conference Overview

SIGGRAPH 2015

Five amazing L.A. days of the latest and greatest advances in computer graphics and interactive techniques, including a three-day commercial exhibition of the industry's essential products and services. At SIGGRAPH 2015, you'll find all the data, techniques, people, and inspiration you need for another successful year of research, development, creativity, and production.

Conference Registration Categories

FP Full Conference Platinum
F Full Conference
S Select Conference
E+ Exhibits Plus
Ex Exhibitors

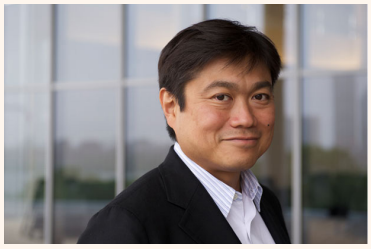
One-Day Registration

One-Day registration includes one day admission to all conference programs and events and the Exhibition (Tuesday-Thursday). Does not include the SIGGRAPH 2015 Reception ticket.

FP F S

Keynote Session

Monday, 10 August, 11 am-12:45 pm
Joichi (Joi) Ito, MIT Media Lab Director



As director of the MIT Media Lab, Joi Ito explores how radical new approaches to science and technology can transform society in substantial and positive ways. Over the past 30 years, he has been recognized around the world for his work as an activist, entrepreneur, and venture capitalist, and for his advocacy of emergent democracy, privacy, and internet freedom. He has served as both board chair and CEO of Creative Commons, and currently sits on the boards of The New York Times Company, the Knight Foundation, The MacArthur Foundation, and Sony Corporation.

FP F

Reception

Monday, 10 August, 8-10 pm

Mix and mingle at the international SIGGRAPH community's annual social and intellectual soirée. Drink a toast to your colleagues' achievements, and your own. Share a convivial evening with people you haven't seen since SIGGRAPH 2014. And meet the people you need to know for another year of professional success and adventure.

FP F S

ACM SIGGRAPH Award Presentations

(Immediately preceding the Keynote Session)

ACM SIGGRAPH 2015 Award Recipients

Steven Anson Coons Award for Outstanding Creative Contributions to Computer Graphics

Henry Fuchs
University of North Carolina at Chapel Hill

Computer Graphics Achievement Award

Steve Marschner
Cornell University

Significant New Researcher Award

Johannes Kopf
Microsoft Research

Distinguished Artist Award for Lifetime Achievement in Digital Art

Lillian Schwartz
Independent Artist

Outstanding Service Award

Mike Bailey
Oregon State University

FP F S

ACM SIGGRAPH Award Talks

The Steven Anson Coons Award for Outstanding Creative Contributions to Computer Graphics

Presented during odd-numbered years, this award recognizes long-term creative impact on the field of computer graphics.

Computer Graphics Achievement Award

Awarded annually to recognize a major accomplishment that: provided a significant advance in the state of the art of computer graphics and is still significant and apparent.

Significant New Researcher Award

Awarded annually to a researcher who has made a recent significant contribution to the field of computer graphics and is new to the field.

Distinguished Artist Award for Lifetime Achievement in Digital Art

Awarded annually to an artist who has created a substantial and important body of work that significantly advances aesthetic content in the field of digital art.

Outstanding Service Award

This award is given annually to recognize outstanding service to ACM SIGGRAPH by a volunteer over a significant period of time.

FP F S E+ Ex
ACM Student Research Competition

Fifteen student posters are selected for judging at SIGGRAPH 2015. A panel of distinguished judges selects three semi-finalists in each category (undergraduate and graduate), who present their work to SIGGRAPH 2015 attendees.

FP F S E+ Ex
Appy Hour

Meet the next generation of mobile applications and their creators at Appy Hour. Enjoy a libation, interact with the developers, and experience tomorrow's mobile media.

FP F S E+ Ex
Art Gallery: Hybrid Craft

Explore the role of craft heritage in contemporary digital design, where beautiful and meaningful artifacts are produced by machine and craftsperson together, not by a machine or by a craftsperson alone.

FP F
Art Papers

The processes and theoretical frameworks for making art and contextualizing its place in society.

FP F S Ex
Birds of a Feather (BOF)

Informal presentations, discussions, and demonstrations, designed by and for people who share interests, goals, technologies, environments, or backgrounds.

FP F S
Computer Animation Festival

High-tech projection of the finest achievements in animated feature and short films, games, advertising, visual effects, real-time effects, real-time graphics, and scientific visualization.

FP F
Courses

Essential skills and insider knowledge delivered by world-class experts. Courses ranges from an introduction to the foundations of computer graphics and interactive techniques for those new to the field to advanced instruction on the most current techniques and topics.

FP F S
Dailies

Behind-the-scenes revelations of production triumphs and setbacks at the world's leading studios and universities.

FP F S E+ Ex
Emerging Technologies

Test-drive the latest interactive and graphics technologies before they transform the way we live and work. Emerging Technologies presents hands-on demonstrations of research from a wide variety of disciplines, including automotive systems, displays, input devices, and wearable technology.

FP F S E+ Ex
Exhibition

The year's largest, most comprehensive exhibition of hardware systems, software tools, and creative services in the computer graphics and interactive techniques marketplace. Established industry leaders and emerging challengers display, discuss, and demonstrate the products, systems, techniques, ideas, and inspiration that are creating the digital future.

FP F S E+ Ex
Exhibitor Tech Talks

SIGGRAPH 2015 exhibitors demonstrate software, hardware, and systems; answer questions; and host one-on-one conversations about how their applications improve professional and technical performance.

FP F S Ex
Exhibits Fast Forward

A fast-paced, entertaining preview of the products and announcements that companies plan to make during the SIGGRAPH 2015 Exhibition.

FP F S E+ Ex
International Resources

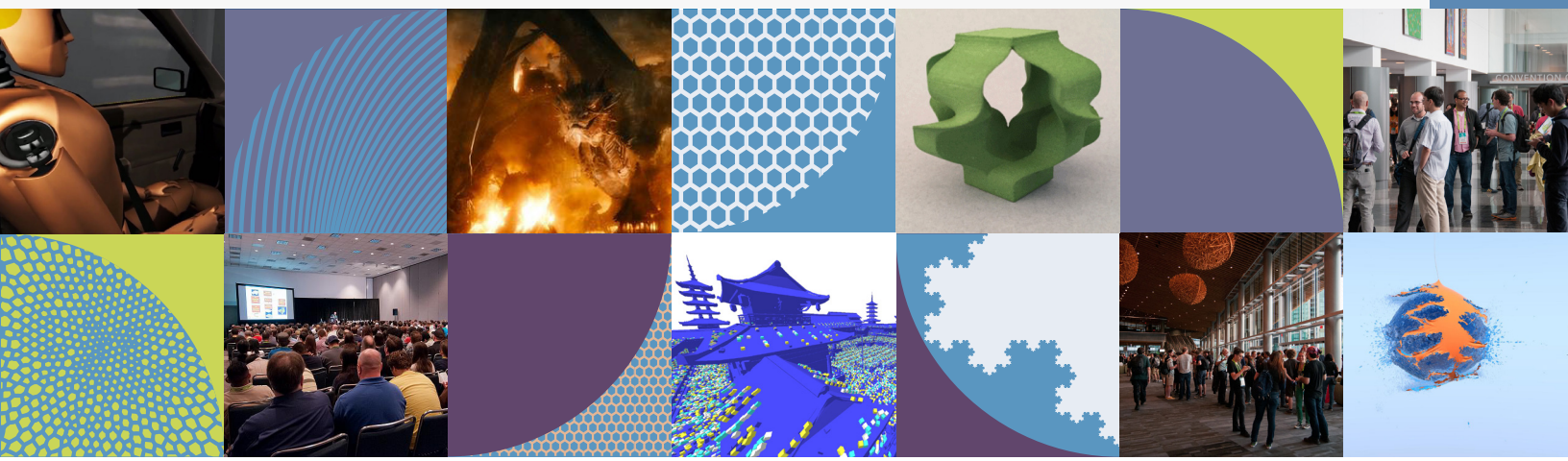
Learn how the industry is evolving worldwide and collaborate with attendees from five continents. The International Center offers informal translation services and space for meetings, talks, and demonstrations.

FP F S E+ Ex
Job Fair

Looking for opportunity? Interested in meeting with some inspiring companies? Discover your future at SIGGRAPH 2015. In the Job Fair, attendees connect with employers before, during, and after the conference via the CreativeHeads.net job board and candidate profiling system.

FP F S E+ Ex
Making @ SIGGRAPH 2015

Learn how makers use their creativity, ingenuity, and critical thinking to inspire others.



FP F S E+ Ex
The MIX

Following its successful SIGGRAPH debut in Vancouver last year, the MIX Showcase returns for SIGGRAPH 2015. The MIX team has been organizing showcases for independent game developers to present their projects to media and industry leaders since 2012. At SIGGRAPH 2015, game developers present indie projects featuring a wide variety of advanced graphics and gameplay, some still in the experimental stages.

FP F
Panels

Expert panelists share experiences, opinions, insights, speculation, disagreement, and controversy with each other and the audience. Panel topics range from expanding the digital-dome industry to the resurgence of virtual reality.

FP F S E+ Ex
Posters

In-progress research, student projects, and late-breaking work ranging from applications of computer graphics to in-depth analysis of specific subjects. During Poster Presentations, authors discuss their work with attendees. New this year: SIGGRAPH posters are presented in an electronic format.

FP F S
Production Sessions

Learn how world-class creative and production talent created the computer animation and visual effects in some of the Computer Animation Festival's most provocative works.

FP F S
Real-Time Live!

An interactive extravaganza that celebrates the real-time achievements of evil geniuses, mad scientists, and creative computer gods.

FP F S E+ Ex
Studio

The playful and experimental nature of the Studio provides a unique forum to engage with other brilliant professionals and academics who focus on content-creation in digital, physical, and social outlets while exploring new tools, applications, and methods to create, craft, build, and share. Along with a renewed emphasis on technology, it presents projects from alternative fields that utilize and build new foundations in computer graphics – particularly those that extend beyond traditional screens and into the physical world.

FP F
Talks

Explore the latest in-progress developments and how they will be implemented in graphics production or other fields.

FP F
Technical Papers

These prestigious juried presentations are the most influential international scientific events in computer graphics and interactive techniques.

FP F S
Technical Papers Fast Forward

The world's leading experts in computer graphics and interactive techniques preview the Technical Papers in provocative, sometimes hilarious summaries of the field's evolution.

FP F S E+ Ex
VR Village

Explore real-time immersion in tomorrow's virtual and augmented realities, including stand-up/sit-down VR, tabletop AR, nomadic VR (untethered head-mounted displays or AR), full-dome cinema, and live performances and demos in a 360-degree immersion dome.

Conference Schedule

Registration/Merchandise Pickup Center/SIGGRAPH Boutique

Saturday, 8 August	4-6 pm
Sunday, 9 August	8 am-6 pm
Monday, 10 August	8:30 am-6 pm
Tuesday, 11 August	8:30 am-6 pm
Wednesday, 12 August	8:30 am-6 pm
Thursday, 13 August	8:30 am-3:30 pm

Schedule is subject to change.

Sunday, 9 August

9-10 am
Panel: Ready, Steady ... SIGGRAPH!!!!

9-10:30 am
ACM SIGGRAPH Organization Events:
IEEE TVCG Special Session on Visualization

9 am-6 pm
International Center

10:15 am-12:15 pm
Course: Fundamentals Seminar

10:30-11:30 am
ACM SIGGRAPH Theater Event:
CG in Australasia

10:45 am-12:15 pm
ACM SIGGRAPH Organization Events:
IEEE TVCG Special Session on Augmented and Virtual Reality

Talks: Killing Monsters: Behind the Scenes of the Witcher 3

Talks: Crowds and Complexity

11:30 am-12:30 pm
ACM SIGGRAPH Theater Event:
Demoscene 2014/2015

Noon-5:30 pm
Art Gallery

Educator Symposium

Emerging Technologies

Making @ SIGGRAPH 2015

Posters

Studio

The MIX

VR Village

1-2 pm
ACM SIGGRAPH Theater Event:
International collegiate Virtual Reality Contest (IVRC)

2-3 pm
ACM SIGGRAPH Theater Event:
Overview of SIGGRAPH (with Japanese interpreter)

2-3:30 pm
Studio Course: Digital T-Shirt Design and Printing

Talks: Inside Your Head and Out of This

Talks: Bringing Worlds to Life: Inside the Minds of Avalanche Studios

Talks: On and Under the Surface (Geometry Rigging & Surfacing)

2-5:15 pm
Course: Applying Color Theory to Digital Media and Visualization

Course: Moving Mobile Graphics

Course: Real-Time Rendering of Physically Based Optical Effects in Theory and Practice

Course: Computational 3D Imaging: Advances in Time-of-Flight Imaging

3-5 pm
ACM SIGGRAPH Theater Event:
ACM SIGGRAPH Digital Arts Community

3:45-5:15 pm
Studio Talks: Machine Phenomena

Talks: Off the Beaten Path (Tracing)

Talks: An Animator's (Day) Dream

6-8 pm
Technical Papers Fast Forward

Monday, 10 August

9-10:30 am
Art Gallery Talks

Panel: The Renaissance of VR: Are We Going to do it Right This Time?

Talks: Capturing the World

Technical Papers: Computational Illumination

Technical Papers: Geometry Field Trip

Technical Papers: Modeling, Controlling, and Suturing Humans

9-11 am
ACM SIGGRAPH Theater Event:
Immersive Visualization for Science and International Research

9 am-12:15 pm
Course: Advances in Real-Time Rendering, Part I

9 am-5:30 pm
Art Gallery

Computer Animation Festival – Daytime Selects

Emerging Technologies

Making @ SIGGRAPH 2015

Posters

Studio

The MIX

VR Village

9 am-6 pm
International Center

11 am-12:45 pm
Keynote Session:
Joichi (Joi) Ito, Director, MIT Media Lab

1-2:30 pm
ACM SIGGRAPH Theater Event:
ACM SIGGRAPH Cartographic BOF

2-3:30 pm
ACM SIGGRAPH Award Talks

Art Gallery Talks

SIGGRAPH Special Event: ILM 40th Anniversary Presentation

Production Session: Building San Fransokyo: Creating the World of Disney's "Big Hero 6"

2-5:15 pm
Course: Advances in Real-Time Rendering, Part II

2:30-3:30 pm
ACM SIGGRAPH Theater Event:
Demoscene - Classics

Monday, 10 August Continued

3:30-4:30 pm
ACM SIGGRAPH Theater Event: CG in Asia

3:45-5:15 pm
ACM SIGGRAPH Organization Events: UIST Reprise at SIGGRAPH 2015

Exhibits Fast Forward

Studio Course: Build Your Own Game Controller

3:45-5:35 pm
Talks: Links and Locks

Technical Papers: Face Reality

Technical Papers: Rendering Complex Appearance

Technical Papers: Wave-Particle Fluidity

6-8 pm
Computer Animation Festival – Electronic Theater

8-10 pm
Reception

Tuesday, 11 August

9-10:30 am
Studio Course: Compute for Mobile Devices: Performance-Focused Hands-On

Studio Talks: Wondrous Wearables, A Special Session with the Mi.Mu Gloves Project

Talks: Got 'Bots

Technical Papers: Simsquishal Geometry

Technical Papers: VR, Display & Interaction

9 am-12:15 pm
Art Papers

Course: The Path-Tracing Revolution in the Movie Industry

Course: An Overview of Next-Generation APIs

9 am-5:30 pm
Art Gallery

Computer Animation Festival – Daytime Selects

Emerging Technologies

Making @ SIGGRAPH 2015

Posters

Studio

The MIX

VR Village

9 am-6 pm
International Center

9:30 am-6 pm
Exhibition

Exhibitor Tech Talks

Job Fair

10:30 am-12:30 pm
ACM SIGGRAPH Theater Event: Enhanced Vision – Digital Video: Online Exhibition; Special Session of ACM SIGGRAPH Digital Arts Community

10:45 am-12:15 pm
Course: Writing Fast Image Processing Code with Halide

Production Session: Disney•Pixar's "Lava": Moving Mountains

Production Session: Weta Digital Presents: Over 20 Years of Creativity and Innovation

Studio Talks: Crafting Unexpected Rendering Techniques

Talks: Effects Omelette

Technical Papers: Let's Do the Time Warp

Technical Papers: Meshing Around

1-2 pm
ACM SIGGRAPH Theater Event: Women in CG- Perspectives

2-3 pm
ACM SIGGRAPH Theater Event: Women in CG- Social Time

2-3:30 pm
Course: Denoising Your Monte Carlo Renders: Recent Advances in Image-Space Adaptive Sampling and Reconstruction

Production Session: Double Negative Presents: The Visual Effects of "Interstellar"

Production Session: Inside the Mind: The Making of Disney•Pixar's "Inside Out"

Technical Papers: Video Processing

Technical Papers: Parameterization & Mapping

Technical Papers: Deform me a Solid

2-5:15 pm
Course: Open Problems in Real-Time Rendering

2-5:15 pm
Course: Modeling and Toolpath Generation for Consumer-Level 3D Printing

3-4 pm
ACM SIGGRAPH Theater Event: CG in Latin America: "Encontro dos brasileiros" — Brazilian Meeting

3:45-5:15 pm
Course: Bullet Physics Simulation Emerging Technologies Talks

Panel: Convergence in Film and Games Technologies

Talks: Behind the Cinematic of Blizzard Entertainment's Overwatch

3:45-5:35 pm
Technical Papers: Image Processing

Technical Papers: Taking Control

Technical Papers: Shape Analysis

4-5 pm
ACM SIGGRAPH Theater Event: CG in Latin America

5-6 pm
ACM SIGGRAPH Theater Event: CG in Latin America Reception

5:30-7:15 pm
Real-Time Live!

Wednesday, 12 August

8:30-10:30 am
Talks: Dream Big (Peanuts)

9-10:30 am
Panel: Digital Domes: Theaters Without Borders

Studio Course: Beginning Native Android Apps

Studio Talks: Building Fantastic Worlds, Studio Games Talks 1

Technical Papers: Fabricating Fabulous Forms

Technical Papers: Transfer & Capture

Technical Papers: Geometry Zoo

9 am-12:15 pm
Course: Physically Based Shading in Theory and Practice

Course: Multi-Threading for Visual Effects

9 am–5:30 pm
Computer Animation Festival – Daytime Selects

Posters

9 am-6 pm
International Center

9 am-7 pm
Art Gallery

Emerging Technologies

Making @ SIGGRAPH 2015

Studio

The MIX

VR Village

9:30 am-6 pm
Exhibition

Exhibitor Tech Talks

Job Fair

10-11 am
ACM SIGGRAPH Theater Event: Professional and Student Chapters Startup Meeting

10:45 am-12:15 pm
Production Session: From Post-it to Post Production, The Uncompromising Journey of "The Book of Life"

Production Session: Image Engine Presents: Breathing Life Into CHAPPiE

Studio Course: Shadertoy Workshop

Studio Talks: Building Fantastic Worlds, Studio Games Talks 2

Talks: Supernatural

Technical Papers: Image Similarity & Search

Technical Papers: Fabrication & Function

Technical Papers: Reconstruction & Analysis

10:45 am-12:30 pm
Talks: On the Move

11 am-noon
ACM SIGGRAPH Theater Event: Digital Content Association of Japan

noon-1:30 pm
ACM SIGGRAPH Theater Event: ISEA International Open Forum

1:30-2:30 pm
ACM SIGGRAPH Theater Event: CG in USA and Canada

2-3:30 pm
Course: Building Blocks for Making 3D Pipeline

Course: Context-Aware 3D Gesture Recognition for Games and Virtual Reality

Production Session: DreamWorks Animation Presents "HOME": Just Another Post-Apocalyptic-Alien-Invasion-Buddy-Road Movie?

Production Session: The Park is Open: Journey to "Jurassic World" with Industrial Light & Magic

Studio Course: Design Machines – Part I

Talks: Werewolves in London: The Order - 1886 Production Talks

Technical Papers: Procedural Modeling

Technical Papers: Appearance Capture

Technical Papers: Fluids, From Air to Goo

2-5:15 pm
Course: How to Design and Build New Musical Interfaces

3-4 pm
ACM SIGGRAPH Theater Event: CG in Europe & Russa

3:45-5:15 pm
ACM Student Research Competition Final Presentation

Panel: DWA TV: A Feature A Week (That's All We Ask)

Production Session: Fix the Future: Industrial Light & Magic and Visual Effects for "Tomorrowland"

Studio Course: Design Machines – Part II

Talks: Pipeline & Asset Management

Talks: Leap of Faith: The World of Mirror's Edge

3:45-5:35 pm
Technical Papers: Character Fashion & Style

Technical Papers: Sampling & Filtering

Technical Papers: Sketching & Surfacing

4-5 pm
ACM SIGGRAPH Theater Event: CG in Africa & Middle East

5-6 pm
ACM SIGGRAPH Theater Event: Genetic Transfiguration Grand Prize Giveaway

5-7 pm
Appy Hour

8:30-10:30 pm
Computer Animation Festival – Electronic Theater

Thursday, 13, August

9-10:30 am
Course: Bringing Stories to Life: for Programmers, Animators, Designers

Course: OpenVDB

Studio Talks: New XRoads of Disruptive Tools

Talks: Traveling Light

Technical Papers: Computational Printing

Technical Papers: Constraints, Collisions & Clarinets

Thursday, 13 August Continued

9 am-12:15 pm
Course: Real-Time Many-Light Management and Shadows with Clustered Shading

9 am-1 pm
Art Gallery

Emerging Technologies

Making @ SIGGRAPH 2015

Studio

The MIX

VR Village

9 am-3:30 pm
International Center

9 am-5:30 pm
Posters

9:30 am-3:30 pm
Exhibition

Exhibitor Tech Talks

Job Fair

10:45 am-12:15 pm
Production Session: "The Peanuts Movie": From Comic Strip to Feature Film

Studio Talks: Quilted Creations and Imaginative Imaging

Technical Papers: Printing Elasties

Technical Papers: Perception & Color

Technical Papers: Meshful Thinking

10:45 am-12:30 pm
Talks: I've Got You Covered

1-2 pm
ACM SIGGRAPH Theater Event: Join the IRC in 2016!

2-3:30 pm
Production Session: The Making of Marvel's "Ant-Man"

Talks: Follow the Crowd

Technical Papers: Scalable Graphics

Technical Papers: Simulating With Surfaces

2-5:15 pm
Course: Modeling and Capturing the Human Body: for Rendering, Health, and Visualization

Course: Computational Tools for 3D Printing

Course: User-Centric Computational Videography

3:45-5:15 pm
Dailies Talks

Panel: SIGGRAPH: The Original "VR MeetUp"

Production Session: The Making of the Characters of Marvel's "Avengers: Age of Ultron"

Talks: Labs R&D: The Rendering Techniques of Deus EX: Mankind Divided and Rise of the Tomb Raider

3:45-5:35 pm
Technical Papers: Light Fields

Art Gallery: Hybrid Craft

FP F S E+ Ex #SIGGRAPH2015

Hybrid Craft demonstrates a multi-directional exchange of knowledge between the new and the traditional, and visualizes techniques to protect and preserve traditional practices. The gallery emphasizes the importance of craft heritage in contemporary digital design, where beautiful and meaningful artifacts are produced by machine and craftsperson together, not by a machine or by a craftsperson alone.

A special issue of *Leonardo, The Journal of the International Society of the Arts, Sciences and Technology* includes visual documentation of the works exhibited in the Art Gallery. Publication of this seventh special issue coincides with SIGGRAPH 2015.

Attend the Art Gallery sessions for discussion with the artists.

Monday, 10 August, 9-10:30 am and 2-3:30 pm

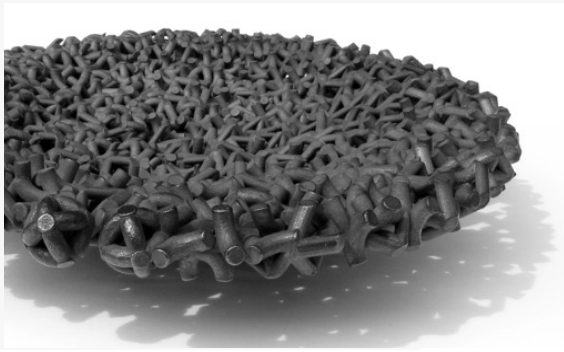


Image Credit: Random Generatives Large Bowl © 2015 Justin Marshall, Autonomatic Research Group

FIRST-TIMER

FP F S E+ Ex

Reception: Leonardo, Art Papers, and Art Gallery

Tuesday, 11 August, 2-3:30 pm

Mix and mingle with the artists, designers, and authors whose work was selected for SIGGRAPH 2015. Your hosts: the SIGGRAPH 2015 Art Gallery and Art Papers committees.

Sponsored by Leonardo/ISAST and The MIT Press

The MIT Press

LEONARDO
THE INTERNATIONAL SOCIETY FOR THE ARTS, SCIENCES AND TECHNOLOGY

3D Printing and Jewelry Making

Yael Friedman
Independent Artist

Articulated 3D-Printed, Hand-Painted Sculptures

Brian Chan
Independent Artist

The Celtic Knife Design Using CNC Techniques

Rab Gordon
Independent Artist

Dandelion Diptych

Jie Qi
Massachusetts Institute of Technology

Folding Musical Instruments

Brian Chan
Independent Artist

The Hunt for Butterflies

Peter Schmitt
Independent Artist

JIGLESS: Bicycle Frame Domestic Fabrication

Atar Brosh
Independent Artist

Line Number

Jennifer Jacobs
Massachusetts Institute of Technology

Minecrafting

Katie Bunnell
Autonomatic Research Group

Neo-Industrial Biography, Glass Working and Re-Configurable Toolmaking

Tavs Jorgensen
Autonomatic Research Group

The Other Way Around: From Virtual to Physical

Amit Zoran
The Hebrew University of Jerusalem

Seppo Valjakka
Independent Artist

PIRANESI

Factum Arte

Random Generatives Large Bowl

Justin Marshall
Autonomatic Research Group

Species-Tool-Being No. 1

Shane Hope
Independent Artist

Wallpapers IV

Leah Buechley
Independent Artist

FP F S #SIGGRAPH2015

Art Papers illuminate the processes and theoretical frameworks for making art and contextualizing its place in our increasingly networked and computationally mediated world.

In collaboration with Leonardo/ISAST, the papers are published in a special issue of *Leonardo, The Journal of the International Society of the Arts, Sciences and Technology.*

The issue also includes visual documentation of the works exhibited in the Art Gallery. Publications of this special issue coincide with SIGGRAPH 2015.

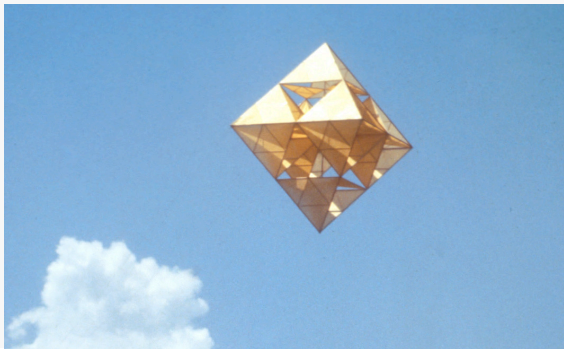


Image Credit: Estructura Volante © 1978 José María Yturralde. Octahedron flying at the 1978 Venice Biennale with Palladio's St. Giorgio Maggiore building in the background

Coding Form, Forming Code

Tuesday, 11 August, 9-10:30 am
Moderator: Edward Shanken

The Bailey-Derek Grammar: Recording the Craft of Wire-Bending in the Trinidad Carnival

This paper presents a visual description of the dying, non-western craft of wire bending in the Trinidad Carnival. Developed from site visits, interviews, observations, and visual examination wire-bent artifacts in Trinidad, it records materials, steps, and rules in this craft practice for its preservation and perpetuity.

Vernelle Noel
Pennsylvania State University

Yturralde: Impossible Figure Generator

An interview with José María Yturralde about his arrival into the field of computer art in 1968, as well as the process involved in the creation of impossible figures. The paper analyzes Yturralde's contribution through a modern software interpretation while inspecting the historical aspects in which it developed.

Esteban Garcia Bravo
Jorge Garcia
Purdue University

Light Pattern

Light Pattern is a programming language in which one communicates with the machine through photographs, a process that explores the nuance and affect inherent in all code.

Daniel Temkin
Independent Artist

Media(ting) Art and Human Experience

Tuesday, 11 August, 10:45 am-12:15 pm
Moderator: Victoria Szabo, *Duke University*

Ethics, Ecology, and the Future: Art and Design Face the Anthropocene

This paper provides a critique of how the Anthropocene is being addressed in art and design, focusing on works of critical, conceptual, and speculative design. Artists and designers discussed include: Marina Zurkow, Una Chaudhuri, Oliver Kellhammer, Fritz Ertl, Sarah Rothberg, Dunne & Raby, and Jae Rhim Lee.

Kayla Anderson
The School of The Art Institute of Chicago

Articulating Media-Arts Activities in Art-Science Contexts

This paper introduces a novel methodological framework for promoting media-arts activities in art-science contexts. It splits media-arts activities into the overlapping areas of generation, augmentation, provocation, and mediation, providing a useful way to articulate the broader importance of media arts in interdisciplinary collaboration.

Angus Forbes
University of Illinois at Chicago

The Dual Skins of a Media Façade: Explicit and Implicit Interactions

This paper considers how media architecture can support new forms of public interaction in urban environments by using ethnographic research methods that seek to bridge the gap between expert top-down approaches to new-media technology design and bottom-up community digital practices that shape in situ usages.

Claude Fortin
Kate Hennessy
Simon Fraser University

Computer Animation Festival

FP F S #SIGGRAPHcaf

The leading annual festival for the world's most innovative, accomplished, and amazing digital film and video creators. The Computer Animation Festival is recognized by the Academy of Motion Picture Arts and Sciences as a qualifying festival. Since 1999, several works originally presented in the Computer Animation Festival have been nominated for or have received a "Best Animated Short" Academy Award.

The SIGGRAPH 2015 Computer Animation Festival presents:

Electronic Theater

Showing Monday and Wednesday, the Electronic Theater showcases an eclectic mix of the finest work in computer graphics from the last 12 months.

Daytime Selects

Showcasing work in computer animation shorts, games, animated feature films, visual effects for live-action feature films, music videos, advertising and visualizations and simulations. Daytime Selects presents the most provocative compelling and avant garde short films and animations, both CG and non-CG.

Production Sessions

Learn how world-class creative and production talent created the computer animation and visual effects in some of the Computer Animation Festival's most provocative works.

Real-Time Live!

Live presentations reviewing the year's most innovative real-time graphics, celebrating interactive rendering techniques across all fields and hardware platforms.

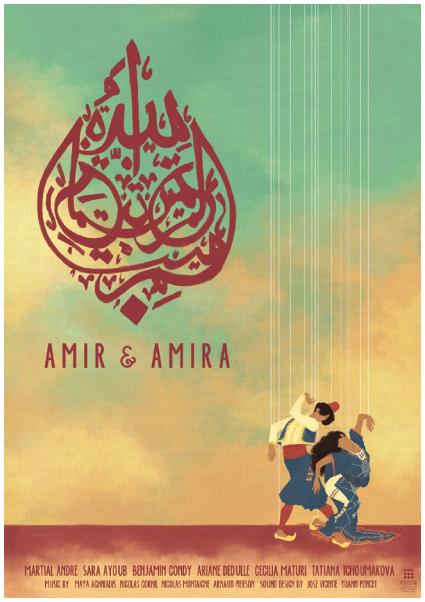


Image Credit: Amir & Amira © 2015 Karim Khenissi, ESMA

Electronic Theater

A Tale of Momentum & Inertia
USA

The Alchemist's Letter
USA

Amir & Amira
FRANCE

Assassin's Creed Unity E3 Cinematic Trailer
HUNGARY

The Boxtrolls: Time Lapse
INVITED
USA

Call of Duty: Advanced Warfare, Discover Your Power
USA

Citius, Altius, Fortius
GERMANY

Divergent
USA

Frozen Fever
INVITED
USA

Guardians of the Galaxy
UNITED KINGDOM

The Hobbit: The Battle of the Five Armies
INVITED
NEW ZEALAND

HOME VFX Breakdown
USA

Ikea, T-shirts
UNITED KINGDOM

Interstellar
INVITED
USA

Jinxy Jenkins and Lucky Lou
USA

John Lewis, Monty's Christmas
UNITED KINGDOM

Jurassic World
INVITED
USA

Kite
USA

L3.0
FRANCE

Lava
INVITED
USA

League of Legends Music: Curse of the Sad Mummy
SOUTH AFRICA

MPC Godzilla VFX Breakdown
UNITED KINGDOM

MPC X-Men: Days of Future Past VFX Breakdown
UNITED KINGDOM

Multi-scale Multi-physics Heart Simulator, UT-Heart
JAPAN

Overwatch Cinematic Trailer
USA

Paddington
UNITED KINGDOM

Synthie Forest
GERMANY

The Present
GERMANY

Tide: The Paradox Effect
CANADA

Tom Clancy's The Division: Take Back New York
USA

Tomorrowland
INVITED
USA

World of WarCraft: Warlords of Draenor Cinematic
USA

Daytime Selects

Advertising

Ambition
POLAND

Dark Noir
UNITED KINGDOM

Digital Domain Gaming and Advertisement Reel
INVITED
USA

Dino Kid
GERMANY

Elevator
GERMANY

First Direct, Little Frill
UNITED KINGDOM

Greenpeace NewBees
GERMANY

Ikea, Beds
UNITED KINGDOM

Mercedes-Benz, Fable
USA

Nissan, Winter Allies
USA

Phosphoros
GERMANY

Playstation 4, InFAMOUS: Second Son
USA

Qualcomm Snapdragon "Bullet Train"
USA

SOMEONE
SOUTH KOREA

T4-Logo
CHINA

The Legend Returns – Peugeot 208 GTI
FRANCE

Xbox, Forza: Leave Your Limits
USA

Computer Animated Shorts

8.9
FRANCE

A New Hue
UNITED KINGDOM

Alosis
GREECE

Batz
FRANCE

Bear Story
CHILE

Between Times
NETHERLANDS

Broken: Rock, Paper, Scissors
USA

Chaud Lapin
FRANCE

Deep Dance
GERMANY

Dji. Death Sails
MOLDOVA

Exode
FRANCE

Fibers
DENMARK

First Launch
TAIWAN

Giant Robots from Outer Space
FRANCE

Give Luci
USA

Green Light-Abandoned city
SOUTH KOREA

I M POSSIBLE
USA

Insomnia
GERMANY

Kite
USA

Le Son des Flammes
FRANCE

Monster
USA

Mortal Breakup Inferno
FRANCE

Murphy
FRANCE

NEBULA
FRANCE

Parrot Away
DENMARK

Peanut Butter Jelly
USA

Ram's Horn
USA

Roommate Wanted – Dead or Alive
DENMARK

Roots
FRANCE

Sahara
FRANCE

Splash
FRANCE

Sticky
USA

Sumsing
GERMANY

Sweet cocoon
FRANCE

The Kiss
USA

The Legend of the Flying Tomato
USA

The Mechanical Waltz
FRANCE

The OceanMaker
USA

TSUM TSUM "Frozen"
JAPAN

Tsunami
DENMARK

VRP
FRANCE

Games

Alpine Vision Gran Turismo
FRANCE

The Crew Launch Trailer
FRANCE

Game of War "Decisions"
USA

Grey Goo Cutscene Mission 05 Outro
UNITED KINGDOM

Grey Goo Launch Trailer
UNITED KINGDOM

inFAMOUS: First Light
USA

inFAMOUS: Second Son
USA

Lords of War Part Three – Durotan
USA

Nitro Nation
POLAND

Warlords of Draenor – Talador Finale
USA

War Thunder: Battle Is On
POLAND

The Witcher 3: The Trail
POLAND

SMITE: Battleground of the Gods
UNITED KINGDOM

Kitchen Sink

Architecture and the Unspeakable 3: Detroit
USA

Atheum's Way
NEW ZEALAND

Big Black Delta - Huggin & Kissin Official Video
USA

Chase Me
FRANCE

Fluid Dynamics Simulations Reel
USA

J'ai vu, une fois, Une Magnifique Image
TAIWAN

Moon Phase and Libration from the Other Side
USA

Nexus
USA

RAKUEN TSUIHO – Expelled from Paradise
JAPAN

Saint Seiya Legend of Sanctuary
JAPAN

Shirley Bassey "If You Go Away" Rebeat Remix
IRAN

Skin Stretch: Simulating Dynamic Skin Microgeometry
USA

Song of the Sea
INVITED
USA

Space-Fluids
GERMANY

SPARKED: A Live Interaction Between Humans and Quadcopters
INVITED
CANADA

Tide: The Paradox Effect
CANADA

Visions of America: Amériques
USA

YouTube Music Awards 2015
USA

Visual Effects for Live-Action Feature Films

Avengers: Age of Ultron
INVITED
USA

Dracula Untold
UNITED KINGDOM

Edge of Tomorrow
UNITED KINGDOM

GEAR
USA

Guardians of the Galaxy
USA

Jupiter Ascending
UNITED KINGDOM

Jupiter Ascending
USA

The Kung Fu Robot
SOUTH KOREA

Maggie
USA

The Maze Runner
USA

MPC Maleficent VFX Breakdown
INVITED
UNITED KINGDOM

Night at the Museum: Secret of the Tomb
USA

FIRST-TIMER

"The Story of Computer Graphics"

A comprehensive survey of the first 25 years of computer graphics, from its origins as an obscure topic of research to its worldwide application in high-tech digital imagery.

Courses (See Studio for more Courses.)

FP F #SIGGRAPH2015

Learn from the experts in the field and gain inside knowledge that is critical to career advancement. SIGGRAPH 2015 Courses deliver invaluable learning opportunities in three levels of difficulty (introductory, intermediate, and advanced).

Full Conference Platinum and Full Conference registrations allows attendees access to all SIGGRAPH 2015 Courses. **Additional Courses are presented in the Studio**, which is open to attendees in all registration categories.

Seating is on a first-come, first-served basis.
Please arrive early for the Courses you wish to attend.

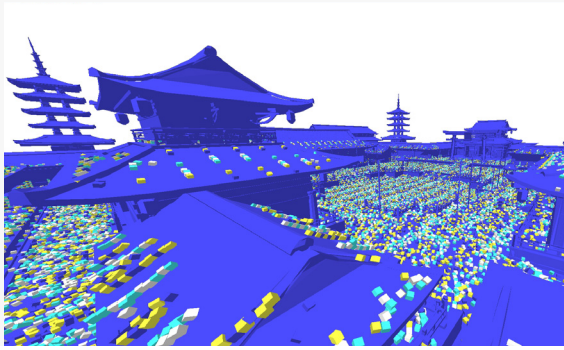


Image Credit: Bullet Physics Simulation, © 2015 Erwin Coumans, Google, Bullet Physics Library

SIGGRAPH University

SIGGRAPH University is a year-round resource for learning the basic principles of computer graphics and interactive techniques.

View SIGGRAPH University Courses on YouTube →

Sunday, 9 August

FIRST-TIMER

Fundamentals Seminar

Sunday, 9 August, 10:15 am-12:15 pm
INTRODUCTORY
INVITED

This "pre-course" provides basic background in the concepts and terminology used in the annual SIGGRAPH conference. It is presented before other conference programs and events, and is more fundamental than any other introductory activities.

Mike Bailey
Oregon State University

FIRST-TIMER

Applying Color Theory to Digital Media and Visualization

Sunday, 9 August, 2-5:15 pm
INTRODUCTORY

The foundations of color theory and how they apply to building effective digital media.

Theresa-Marie Rhyne
Independent Consultant

GAMES MOBILE

Moving Mobile Graphics

Sunday, 9 August, 2-5:15 pm
INTERMEDIATE

The state of the art in power-efficient mobile graphics technology, from hardware and software methodology to advanced game development and graphics research.

Sam Martin
ARM Ltd.

Andrew Garrard
Sansung Electronics Co. Ltd.

Andrew Gruber
Qualcomm Incorporated

Marius Bjørge
ARM Ltd.

Renaldas Zioma
Unity Technologies

Simon Benge
Exient Entertainment

Niklas Nummelin
Electronic Arts, Inc.

GAMES

Real-Time Rendering of Physically Based Optical Effects in Theory and Practice

Sunday, 9 August, 2-5:15 pm
INTERMEDIATE

Optical effects such as Bokeh, bloom, glare, etc. are very important for cinematic rendering. Recent powerful GPUs allow accurate simulation of optical effects in real time. This course introduces optical theory and practical implementations for real-time rendering to achieve photo-realistic optical effects.

Yoshiharu Gotanda
tri-Ace, Inc.

Masaki Kawase
Silicon Studio Corp.

Masanori Kakimoto
Tokyo University of Technology

Computational 3D Imaging: Advances in Time-of-Flight Imaging

Sunday, 9 August, 2-5:15 pm
INTERMEDIATE

An overview of capabilities, limitations, and trends in 3D acquisition and imaging systems. The emphasis is on time-of-flight cameras, which are rapidly increasing in popularity.

Ayush Bhandari
Achuta Kadambi
Ramesh Raskar
MIT Media Lab

Shahram Izadi
Microsoft Research

Vage Taamazyan
Skolkovo Institute of Science and Technology

Monday, 10 August

GAMES

Advances in Real-Time Rendering, Part I

Monday, 10 August, 9 am-12:15 pm
INTERMEDIATE
INVITED

Modern video games employ a variety of sophisticated algorithms to produce ground-breaking 3D rendering that pushes the visual boundaries and interactive experience of rich environments. This course presents state-of-the-art and production-proven rendering techniques for fast, interactive rendering of complex and engaging virtual worlds.

Daniel Wright
Epic Games

Sebastien Hillaire
Tomasz Stachowiak
Yasin Ulydag
DICE

Ari Silvennoinen
Remedy

Andrew Schneider
Guerilla Games

Huw Bowen

Ulrich Haar
Sebastian Aaltonen
Ubisoft

Natalya Tatarchuk
Bungie, Inc.

GAMES

Advances in Real-Time Rendering, Part II

Monday, 10 August, 2-5:15 pm
INTERMEDIATE
INVITED

Phase two of a course on state-of-the-art and production-proven rendering techniques for fast, interactive rendering of complex and engaging virtual worlds.

Tuesday, 11 August

ANIMATION & VFX PRODUCTION

The Path-Tracing Revolution in the Movie Industry

Tuesday, 11 August, 9 am-12:15 pm
ADVANCED

With examples from recent movies, the architectures and novel workflows of the next generation of production renderers are summarized for a wide audience, including technical directors, artists, and researchers.

Alexander Keller
NVIDIA Corporation

Luca Fascione
Weta Digital Ltd.

Marcos Fajardo
Iliyan Georgiev
Solid Angle

Per Christensen
Pixar Animation Studios

Johannes Hanika
Weta Digital Ltd.

Gregory Nichols
Christian Eisenacher
The Walt Disney Company

GAMES MODELING

An Overview of Next-Generation APIs

Tuesday, 11 August, 9 am-12:15 pm
INTRODUCTORY
INVITED

This introductory overview of next-generation graphics APIs includes discussion of API commonalities, basic coverage of API details, and developer case studies.

Tim Foley
NVIDIA Corporation

Graham Sellers
AMD

Max McMullen
Microsoft

Jesse Hall
Google, Inc.

Dan Baker
Oxide Games

Dan Ginsburg
Valve

Aras Pranckevicius
Unity Technologies

Chris Wyman
NVIDIA Corporation

Writing Fast Image Processing Code with Halide

Tuesday, 11 August, 10:45 am-12:15 pm
INTERMEDIATE

An introduction to the core concepts in Halide and how to use it to productively write high-performance code for image processing, computational photography, and vision.

Jonathan Ragan-Kelley
Stanford University

Andrew Adams
Dillon Sharlet
Google Inc.

Frédo Durand
Massachusetts Institute of Technology

PRODUCTION

Denoising Your Monte Carlo Renders: Recent Advances in Image-Space Adaptive Sampling and Reconstruction

Tuesday, 11 August, 2-3:30 pm
ADVANCED

Monte Carlo rendering algorithms are among the most powerful algorithms for high-end image synthesis, but they include noise artifacts at low sampling rates. This course presents the rapidly growing area of image-space algorithms that remove noise through novel adaptive sampling and reconstruction (filtering) methods.

Pradeep Sen
University of California, Santa Barbara

Mathias Zwicker
University of Bern

Fabrice Rousselle
Disney Research

Sung-Eui Yoon
Korea Advanced Institute of Science and Technology

Nima Khademi Kalantari
University of California, Santa Barbara

GAMES

Open Problems in Real-Time Rendering

Tuesday, 11 August, 2-5:15 pm
INTERMEDIATE
INVITED

Detailed discussion of problems and constraints game developers are facing (from the graphics algorithms perspective) that have not been solved by hardware or research efforts.

Aaron Lefohn
NVIDIA Corporation

Natalya Tatarchuk
Bungie, Inc.

Johan Andersson
DICE

PHYSICAL 3D

Modeling and Toolpath Generation for Consumer-Level 3D Printing

Tuesday, 11 August, 2-5:15 pm
INTRODUCTORY

This overview of the challenges in developing a toolpath generator (slicer) for 3D printing describes software solutions for mechanical problems, properties of molten plastic that work against us, and optimizations to improve print time and reduce plastic usage.

H. Quynh Dinh
Stratasys Ltd.

Sylvain Lefebvre
INRIA

Filipp Gelman
Stratasys Ltd.

Frédéric Claux
INRIA

GAMES

Bullet Physics Simulation

Tuesday, 11 August, 3:45-5:15 pm
INTERMEDIATE

Massive parallel collision detection and rigid body simulation using GPUs, plus high-quality constraint solvers and Featherstone articulated body algorithms with applications in games, visual effects, and robotics.

Erwin Coumans
Google Inc.

Wednesday, 12 August

GAMES

Physically Based Shading in Theory and Practice

Wednesday, 12 August, 9 am-12:15 pm
INTERMEDIATE
INVITED

Using examples from film and games, this course presents advances in physically based shading in both theory and production practices, demonstrating how it enhances realism and leads to more intuitive and faster art creation.

Stephen Hill
Stephen McAuley
Ubisoft Montreal

Brent Burley
Walt Disney Animation Studios

Danny Chan
Sledgehammer Games

Luca Fascione
Weta Digital

Michal Iwanicki
Activision

Naty Hoffman
2K

Wenzel Jakob
ETH Zurich

David Neubelt
Ready at Dawn Studios

Angelo Pesce
Activision

Matt Pettineo
Ready at Dawn Studios

ANIMATION & VFX PRODUCTION

Multi-Threading for Visual Effects

Wednesday, 12 August, 9 am-12:15 pm
INTERMEDIATE

This broad overview of the main approaches to multi-threading for visual effects includes practical approaches to specific problems encountered in animation, simulation, and large application development.

Martin Watt
DreamWorks Animation SKG, Inc.

George ElKoura
Pixar Animation Studios

Erwin Coumans
Google, Inc.

James Reinders
Intel Corporation

Jeff Lait
Side Effects Software, Inc.

FIRST-TIMER PRODUCTION

Building Blocks for Making 3D Pipeline

Wednesday, 12 August, 2-3:30 pm
INTERMEDIATE

Each CG project has its own pipeline. But they share a small set of common design patterns: assets, processes, plugins, caches, etc. This course identifies and explains the key patterns and their relationships, and proposes a standard terminology and graphical vocabulary.

Bill Polson
Independent Consultant

AR/VR GAMES

Context-Aware 3D Gesture Recognition for Games and Virtual Reality

Wednesday, 12 August, 2-3:30 pm
INTERMEDIATE

Accurate 3D gesture recognition is critical to the user experience in applications such as video games and virtual reality. This course presents how contextual information can be used to improve the speed and accuracy of 3D gesture recognition.

Joseph LaViola
University of Central Florida

FIRST-TIMER

How to Design and Build New Musical Interfaces

Wednesday, 12 August, 2-5:15 pm
INTRODUCTORY

Introduction to musical interface design and implementation. Attendees learn key aspects of the theory and practice of designing original interactive music technology with case studies including augmented and sensor based instruments, audio-visual instruments, mobile, and networked music making.

Sidney Fels
The University of British Columbia

Michael Lyons
Ritsumeikan University

Thursday, 13 August

ANIMATION & VFX FIRST-TIMER GAMES PRODUCTION

Bringing Stories to Life: for Programmers, Animators, Designers

Thursday, 13 August, 9-10:30 am
INTRODUCTORY

This course visually presents the elements of classic story structure and development, which are presented in screenwriting courses but condensed for programmers, technical directors, designers, and animators whose work makes movies, animation, visual effects, and games come to life.

Craig Caldwell
University of Utah

ANIMATION & VFX PRODUCTION

OpenVDB

Thursday, 13 August, 9-10:30 am
INTERMEDIATE

This course explains the compact volume-data structure and various tools available in the open source library OpenVDB. Since its release in 2012, it has set an industry standard and has been used for visual effects in over 70 feature movies.

Ken Museth
Jeff Budsberg
DreamWorks Animation SKG, Inc.

Dan Bailey
Double Negative

John Lynch
Side Effects Software Inc.

GAMES MOBILE

Real-Time Many-Light Management and Shadows With Clustered Shading

Thursday, 13 August, 9 am-12:15 pm
INTERMEDIATE

Using many lights in real-time applications has been an important goal for many years. This course presents an in-depth and practical exposition that combines production experience from game developers with the latest research into efficient many-light algorithms for both desktop and mobile hardware.

Ola Olsson
Chalmers University of Technology

Emil Persson
Avalanche Studios

Markus Billeter
Universität Zürich

FIRST-TIMER GAMES AR/VR PRODUCTION

Modeling and Capturing the Human Body: for Rendering, Health, and Visualization

Thursday, 13 August, 2-5:15 pm
INTRODUCTORY

An overview of modeling and capturing methodologies that have applications in rendering pipelines and health. The course presents an overview of the bio-physics that create the variability of appearance among individuals in eyes, ears, skin, mouths, and hair.

Hao Li
University of Southern California

Anshuman Das
Tristan Swedish
Hyunsung Park
Ramesh Raskar
Massachusetts Institute of Technology

PHYSICAL 3D

Computational Tools for 3D Printing

Thursday, 13 August, 2-5:15 pm
INTERMEDIATE

An introduction to 3D printing technology and the theory of recent specifications for fabrication methods, which allow designing and computing an object's shape and material composition from a functional description.

Nobuyuki Umetani
Disney Research Zürich

Bernd Bickel
Institute of Science and Technology Austria

Wojciech Matusik
Massachusetts Institute of Technology

PRODUCTION

User-Centric Computational Videography

Thursday, 13 August, 2-5:15 pm
INTERMEDIATE

How to improve the quality and flexibility of capturing, editing, and exploring consumer videos. The course reviews recent techniques in computer vision and graphics, and analyzes how they have evolved.

Christian Richardt
Universität des Saarlandes, Max-Planck-Institut für Informatik

James Tompkin
Harvard University

Maneesh Agrawala
University of California, Berkeley

Christian Theobalt
Max-Planck-Institut für Informatik

Dailies

FP F S #SIGGRAPH2015

In brief presentations, artists tell stories about their achievements in modeling, shading, animation, lighting, effects, and more.

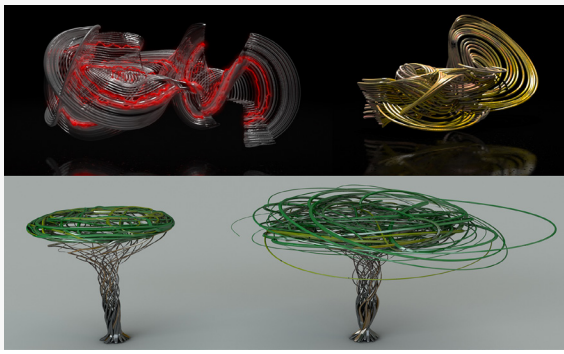


Image Credit: Creating Abstract Motion Sculptures Through Simulation © Jonathan Barry, Clemson University

A Novel Approach to Animated Render Passes in ZBrush

Ambition

An Illusion: From a Sad Experience to Empathy-Oriented Storytelling

Artistic 2D And Half For Crises Expression

Atheum's Way

Body-Face Rig Integration on Dave the Octopus in 'Penguins of Madagascar'

Breaking Bubbles: From Art to Finish

Building The Brain-Computer Interface of Mindscape VR

Chase Me The Tree Making

Coloring and Texturing Volume Simulations from Texture Images

Creating Abstract Motion Sculptures Through Simulation

Creating the Real-Time Demo 'Kite' in Unreal Engine 4

Creating Unbelievable Fluid Simulations

Demon Train

Dust in the Wind — A Data-Driven Dust Visualization

Eye Robot: A Collaborative Production Between Texas A&M University and DreamWorks Animation

Finding the "Right" Velocity Field to Shape a Smoky Leopard

Generic Mutant Penguins

H2OH NO!

Home Brewed VR Bubble Gun

How Did We Tile Greenland?

Huggin and Kissin

Jewel of Denial

Lefty & Boomer: How NOT to Make a Student Short

Making a Big Splash in a Small Pond

My Robot Guitar: Chimes Big Ben Notes Hourly, Plays Firewall Logs and More

One Track, Mind: Inside Out's Train of Thought

Peanut Butter Jelly

Procedural City for 3D Animated Production

Prototyping Realtime Volumetric Clouds

RenderMan Layer Ocean Shader

Searching for the Garbage Patches

Snow in Dragon 2

Surreal Nightswimming in Home

The Making of Fruit People

The Old Axolotl

To Rust We Shall Return VR

Visualization of a Stratospheric Ozone Intrusion

White Crane Dance

Educator Symposium

FP F S #SIGGRAPH2015

Education is primary and fundamental to a strong and growing community of computer graphics professionals. The Education Focus provides opportunities for educators at the K-12 level and secondary levels to share high-quality pedagogical content, critical thinking, and research that push boundaries and expand knowledge within the CG discipline.

New this year is the Educators Symposium which offers educators an opportunity to present rigorous and relevant research.

Image Credit: Hacking Diabetes © 2015 Chris Reilly, Eastern Michigan University

Opening Remarks

Sunday, 9 August, Noon

Michael Gayk, Education Liaison
State University of New York at New Paltz

Stratasys, Ltd.

Keynote Speaker

Sunday, 9 August, 12:15 pm

Post-Media Education: Criticality, Making, and Openness

As media theorists mark the arrival of a post-media era, educators need to consider the opportunities presented by antecedents in critical media education, maker movements, and open-source culture.

Aaron D. Knochel
Pennsylvania State University

Extending Fashion-Design Education Through Technology, Collaboration, and Interdisciplinary Research

Sunday, 9 August, 1 pm

Digital design and digital fabrication extend traditional fashion-design education and allow interdisciplinary discourse and collaborative research to emerge.

Margarita Benitez
Kent State University

Hacking Diabetes

Sunday, 9 August, 2 pm

Developing creative patient-driven approaches to Type 1 diabetes management using food, electronics, fashion, and information.

Chris Reilly
Eastern Michigan University

The Pedagogical Implications of Distributed Authorship

Sunday, 9 August, 3 pm

When Alison King proposed a shift in the role of the teacher from “sage on the stage to guide on the side”, the internet was still in its infancy. In the 20-odd years since King’s paper, technology has completely changed how we share information.

Taylor Hokanson
Columbia College

Odd Fellows Union: Craft, Technology, and Conceptualism

Sunday, 9 August, 4 pm

In this presentation, Matthew Hebert presents his interactive sculptural objects within the contexts of craft, technology, and conceptualism.

Matthew Hebert
San Diego State University

Stratasys Ltd. Presentation

Sunday, 9 August, 5 pm

Emerging Technologies

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Play with the latest interactive and graphics technologies before they transform the way we live and work. Emerging Technologies presents demonstrations of research from several fields, including displays, input devices, collaborative environments, and robotics.

Attend the Emerging Technologies session for discussion with the creators.

Tuesday, 11 August, 3:45-5:15 pm

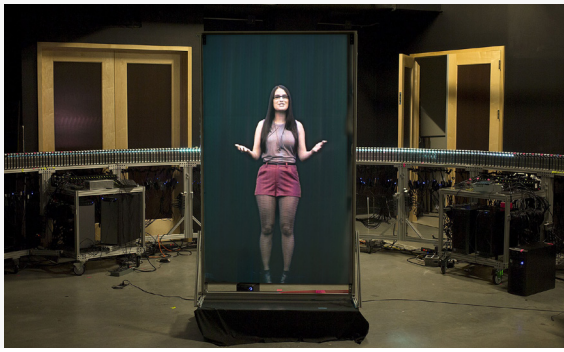

Image Credit: An Auto-Multiscopic Projector Array for Interactive Digital Humans © 2015 Andrew Jones, University of Southern California; Jonas Unger, Linköpings universitet; Koki Nagano, Jay Busch, Xueming Yu, Hsuan-Yueh Peng, Oleg Alexander Paul Debevec, University of Southern California

A Multi-Projector Display System of Arbitrary Shape, Size, and Resolution

Duy-Quoc Lai
Aditi Majumder
Mahdi Tehrani
University of California, Irvine

Acoustruments: Passive, Acoustically Driven, Interactive Controls for Handheld Devices

Gierad Laput
Carnegie Mellon University, Disney Research Pittsburgh

Eric Brockmeyer
Moshe Mahler
Disney Research Pittsburgh

Scott Hudson
Chris Harrison
Disney Research Pittsburgh, Carnegie Mellon University

Air Haptics: Displaying Feeling of Contact With AR Object Using Visuo-Haptic Interaction

Yuki Ban
Takuji Narumi
Tomohiro Tanikawa
Michitaka Hirose
The University of Tokyo

An Auto-Multiscopic Projector Array for Interactive Digital Humans

Jonas Unger
Linköpings universitet

Andrew Jones
Koki Nagano
Jay Busch
Xueming Yu
Hsuan-Yueh Peng
Oleg Alexander
Paul Debevec
University of Southern California

CHILDHOOD: Wearable Suit for Augmented Child Experience

Jun Nishida
Hikaru Takatori
Kosuke Sato
Kenji Suzuki
University of Tsukuba

Christie Digital Sandbox

INVITED

Kevin Wright
Roy Anthony
Christie Digital

Deformation Lamps: A Projection Technique to Make a Static Picture Dynamic

Takahiro Kawabe
Masataka Sawayama
Shin'ya Nishida
NTT Communication Science Laboratories

Doppler Time-of-Flight Imaging

Felix Heide
The University of British Columbia

Gordon Wetzstein
Stanford University

Matthias Hullin
Rheinische Friedrich-Wilhelms-Universität Bonn

Wolfgang Heidrich
King Abdullah University of Science and Technology

Fairy Lights in Femtoseconds: Aerial and Volumetric Graphics Rendered by a Focused Femtosecond Laser Combined With Computational Holographic Fields

Yoichi Ochiai
The University of Tokyo

Kota Kumagai
Utsunomiya University

Takayuki Hoshi
Nagoya Institute of Technology

Jun Rekimoto
Sony CSL, The University of Tokyo

Satoshi Hasegawa
Yoshio Hayasaki
Utsunomiya University

FlashTouch: Touchscreen Communication Combining Light and Touch

Masa Ogata
Michita Imai
Keio University

Yuta Sugiura
National Institute of Advanced Industrial Science and Technology

Ford Immersive Vehicle Environment

INVITED

Elizabeth Baron
Ford Motor Company

High-Brightness HDR Projection Using Dynamic-Phase Modulation

Gerwin Damberg
The University of British Columbia

James Gregson
Anders Ballestad
Eric Kozak
Johannes Minor
Raveen Kumaran
MTT Innovation Inc.

Wolfgang Heidrich
The University Of British Columbia

HoloChat: 3D Avatars on Mobile Light-Field Displays

Jing Liu
University of California, Santa Cruz

Armand Niederberger
David Fattal
LEIA Inc.

Jihun Yu
Industrial Light & Magic

Hao Li
University of Southern California

LASTER Technologies Omnivisio Project

INVITED

Benoit Froissard
LASTER Technologies

The Light-Field Stereoscope

Fu-Chung Huang
NVIDIA Research, Stanford University

David Luebke
NVIDIA Research

Gordon Wetzstein
Stanford University

Making Small Spaces Feel Large: Infinite Walking in Virtual Reality

Evan Suma
Mahdi Azmandian
Timofey Grechkin
Thai Phan
Mark Bolas
USC Institute for Creative Technologies

MEME – Smart Glasses to Promote Healthy Habits for Knowledge Workers

Kai Kunze
Keio University

Kazutaka Inoue
J!NS

Yuji Umea
Sean Shao-An Tsai
Masahiko Inami
Keio University

Shoya Ishimaru
Katsuma Tanaka
Koichi Kise
Osaka Prefecture University

MidAir Touch Display

INVITED

Yasuaki Monnai
Keio University

Keisuke Hasegawa
Seki Inoue
Yoshikazu Furuyama
Yasutoshi Makino
Hiroyuki Shinoda
The University of Tokyo

Moving Around in Virtual Space With Spider Silk

Ping-Hsuan Han
Da-Yuan Huang
Hsin-Ruey Tsai
Po-Chang Chen
Chen-Hsin Hsieh
Kuan-Ying Lu
Yi-Ping Hung
National Taiwan University

De-Nian Yang
Academia Sinica

Panoramical

INVITED

Fernando Ramallo

Brendan Byrne

Kevin Watters

Po2: Augmented Haptics for Interactive Gameplay

Ali Israr
Siyan Zhao
Kyna McIntosh
JaeKyun Kang
Moshe Mahler
Eric Brockmeyer
Disney Research

Zachary Schwemler
Mark Baskinger
Carnegie Mellon University

SemanticPaint: Interactive Segmentation and Learning of 3D Worlds

Vibhav Vineet
Stanford Univeristy

Ming-Ming Cheng
Nankai University

Victor Prisacariu
Olaf Kahler
Carl Ren
Anurag Arnab
Stephen Hicks
David Murray
Philip Torr
Stuart Golodetz
Michael Sapienza
Julien Valentin
University of Oxford

Shahram Izadi
Microsoft Research

Shogyo Mujo

Bart Kresa
BARTKRESA design

Josh Harker

VibroSkate: A Locomotion Interface With Exact Haptics and Kinesthesia

Daiki Sato
Masataka Ezoe
Arisa Shimizu
Ayaka Hino
Midori Kawaguchi
Katsuya Kikuchi
Hironori Mitake
Shoichi Hasegawa
Yurio Hosaka
Tokyo Institute of Technology

Wobble Strings: Spatially Divided Stroboscopic Effect for Augmenting Wobbly Motion of Stringed Instruments

Shogo Fukushima
Takeshi Naemura
Takefumi Hiraki
Hiroki Yamamoto
Hajime Kajita
The University of Tokyo

Making @ SIGGRAPH 2015

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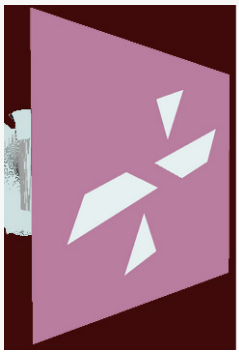
Experience what makers have learned and how they use their creativity, ingenuity, and critical thinking to inspire others.

A preliminary list of Making @ SIGGRAPH 2015 activities.
Visit s2015.siggraph.org for an updated list.



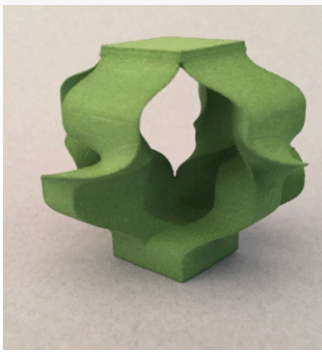


Image Credit: Freezing Time: Making 3D Sculptures from 2D Animations

Making @ SIGGRAPH 2015 Birds of a Feather

Troubleshooting 3D Modeling and Printing in the Classroom

Learn how to identify, troubleshoot, and prevent many of the most common pitfalls that designers, educators, and students encounter when preparing to print their 3D projects.

Lance Winkel
University of Southern California

3D Design and Prototyping: Bringing 3D Printing to the Classroom

3D prototyping and printing technologies are evolving very rapidly. Keeping pace can be daunting. Keeping pace at the speed of academia can be overwhelming. This presentation summarizes the development of USC's unique 3D Design and Prototyping curriculum from early concept to successful implementation.

Lance Winkel
University of Southern California

Making @ SIGGRAPH 2015 Course

Freezing Time: Making 3D Sculptures From 2D Animations
Sunday, 9 August, 12:15-1:45 pm

Imagine creating a beautiful 2D animation that you can post to social media and then turning it into a gorgeous 3D model that you can print and hold in your hand. This course shows you how and gives you all the software you need to make more animations and models.

Andrew Glassner
The Imaginary Institute

Eric Haines
Autodesk, Inc.

Making @ SIGGRAPH 2015 Projects

Cannybots - Smart Toys, Built by Kids

Cannybots introduce kids to technology in a fun, casual setting. They are toy robots that can be built and programmed by kids, 3D printed at home, and programmed using Arduino, Blockly, Python, or Scratch.

Anish Mampetta
Wayne Keenan
Sayi Pavithrasagar
Cannybots Ltd.

Making With Minecraft

With Minecraft, attendees can develop simple immersive environments and use 3D printers to create prototypes from their own designs.

Rosa Farre

Paper Electronics Sandbox

Attendees use circuit stickers, conductive inks, paints, and arts and craft supplies to create light-up cards and/or add to an interactive mural.

Jie Qi
Massachusetts Institute of Technology

Semi-Automatic 3D Garment Converter for Physical Simulation

This easy-to-use system for physics-based cloth simulation from 2D sewing patterns allows users to reduce conversion time and provides optimal 3D garment data for realistic garment simulation.

Eunjung Ju
Youngmin Kwak
Samsung

Invaluable opportunities for attendees to share opinions, insights, disagreement with the leading experts in computer graphics and interactive techniques.

Full Conference Platinum and Full Conference Access registration allows attendees access to all SIGGRAPH 2015 Panels.

Seating is on a first-come, first-served basis.
Please arrive early for the Panel you wish to attend.

Image Credit: The Renaissance of VR: Are we going to do it right this time? © 2015 Margaret Dolinsky, Indiana University; Jaron Lanier, Microsoft Research; Elizabeth Baron, Ford Motor Company; Ronald Azuma, Intel Labs; Carolina Cruz-Neira, University of Arkansas at Little Rock

Sunday, 9 August

FIRST-TIMER

Ready, Steady ... SIGGRAPH!!!!

Sunday, 9 August, 9-10 am

INVITED

Not sure how to plan your time at SIGGRAPH 2015? This panel of seasoned attendees and program chairs explains how to maximize your conference experience, select the “don’t-miss” sessions, and decipher the convention center’s layout.

Ann McNamara
Texas A&M University

Monday, 10 August

FIRST-TIMER AR/VR

The Renaissance of VR: Are We Going to do it Right This Time?

Monday, 10 August, 9-10:30 am

This panels examines the factors for today’s renaissance of VR, the new perspectives on what it can enable, while it also takes a look back to explore lessons learned, successes and failures, and why we lost the excitement of the public after the first VR wave of the 90s.

Moderator
Margaret Dolinsky
Indiana University

Panelists
Jaron Lanier
Microsoft Research

Elizabeth Baron
Ford Motor Company

Ronald Azuma
Intel Labs

Carolina Cruz-Neira
University of Arkanasa at Little Rock

Tuesday, 11 August

FIRST-TIMER ANIMATION & VFX ARTS GAMES PRODUCTION

Convergences in Film and Games Technologies

Tuesday, 11 August, 3:45-5:15 pm

INVITED

This panel discusses the relevant convergences in film and game production processes and technologies. Leading minds in our industries explore the current state of artistically driven production tools and resources, how film-production methodologies influence game production and vice-versa, and emerging ideas in the field.

Panelists
Bill Polson
Pixar Animation Studios

Kim Libreri
Epic Games

Kim Davidson
Side Efects Software Inc.

Frank Vitz
Crytek

Rick Stringfellow
Electronic Arts

Colin Penty
Black Tusk Studios

Wednesday, 12 August

FIRST-TIMER AR/VR

Digital Domes: Theaters Without Borders

Wednesday, 12 August, 9-10:30 am

In this panel, dome specialists present their visions of the future of the digital-dome industry. Topics include: dome shows featuring big data science vs. live-action photography, scaling content across domes, producing live interactive experiences vs. digital playback, and global distribution issues. The panelists demonstrate their own unique productions, including the recent "Solar Superstorms" documentary, in the dome theater at the VR Village.

Moderator
AJ Christensen
National Center for Supercomputing Applications

Panelists
Donna Cox
National Center for Supercomputing Applications

Ed Lantz
Vortex Immersion Media

Ryan Wyatt
Morrison Planetarium and Science Visualization

Brad Thompson
Spitz Creative Media

FIRST-TIMER ANIMATION & VFX

DWA TV: A Feature A Week (That's All We Ask)

Wednesday, 12 August, 3:45-5:15 pm
INVITED

When the Netflix-DreamWorks Animation deal required delivery of over 300 hours of original content, the newly formed DreamWorks TV division was tasked with figuring out how to deliver at an unprecedented pace while maintaining a quality level that the beloved franchises required. In this panel, the DWA TV team explains how they set up their pipeline, chose tools, vetted 3D animation vendors around the world, created a common production language, optimized the approval process, and are keeping up with a production schedule that knows no flexibility.

Panelists
Mark Taylor
Randy Dormans
Chris Neuhahn
Mio Markovic
DreamWorks Animation SKG, Inc.

Thursday, 13 August

FIRST-TIMER AR/VR

SIGGRAPH: The Original VR MeetUp

Thursday, 13 August, 3:45-5:15 pm
INVITED

This panel explores SIGGRAPH's role as an important catalyst for the original introduction of virtual reality technologies and experiences to the public.

At SIGGRAPH 91, Tomorrow's Realities showcased early VR experiences in an entire hall of demonstrations. In 1994, The Edge and VROOM displayed new ideas potentials for a wide range of VR applications. SIGGRAPH continues to explore VR and its relationship to computer graphics, interactivity, and VR's impact on society, through Emerging Technologies, Courses, Technical Papers, Panels and many exhibitors large and small. This year's VR Village continues this tradition.

The panel is composed of VR pioneers who have been active in SIGGRAPH's VR activities over the years. They are all re-engaged with today's resurgence of VR. Their vibrant stories of VR through the years will fascinate attendees and validate the important role SIGGRAPH played in promoting VR.

Moderators
Jacquelyn Ford Morie
All These Worlds, LLC

Greg Panos
VR Evangelist, Inventor, Mentor

Panelists
Brett Leonard
Rival Theory VR

Linda Jacobson
East Bay Virtual Reality Alliance; Set It Spinning LLC

Vincent John Vincent
GestureTek Inc.

Nonny de la Pena
The Emblematic Group

Production Sessions

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As part of the Computer Animation Festival, SIGGRAPH 2015 hosts Production Sessions, where the world's most elite and talented computer graphic experts and creative geniuses explain their processes and techniques for creating compelling content. Following each presentation, attendees ask questions about the challenges and issues associated with complex productions.

SIGGRAPH Special Event

ILM 40th Anniversary Presentation

Monday, 10 August, 2-3:30 pm

For 40 years, Industrial Light & Magic has set the standard for visual effects, creating some of the most memorable images in the history of modern cinema. From advances in the photo-chemical process, optical compositing, motion control, and models and miniatures, to the company's pioneering efforts in computer graphics, digital compositing, film scanning and recording, morphing, digital environments, performance capture, character animation and modern digital pipelines, ILM consistently breaks new ground in visual effects for film, television, themed attractions, and new forms of entertainment. The presenters discuss the company's work from its earliest days and breakthroughs along the way.

Panelists

Dennis Muren, Senior Creative Director & Visual Effects Supervisor & Special Guests
Industrial Light & Magic

Building San Fransokyo: Creating the World of Disney's "Big Hero 6"

Monday, 10 August, 2-3:30 pm

"Art challenges technology, technology inspires art." (John Lasseter)

This was especially true while making Walt Disney Animation's 2014 film "Big Hero 6". In this session, the filmmakers explain creation of the rich and vibrant metropolis of San Fransokyo. From art direction to final frames, the talents of the whole team as well as new approaches to rendering were required to bring the dynamic and detailed world of "Big Hero 6" to life.

Panelists

Hank Driskill, Technical Supervisor
Walt Disney Animation Studios

Larry Wu, Environment CG Supervisor
Walt Disney Animation Studios

Adolph Lusinsky, Director of Cinematography, Lighting
Walt Disney Animation Studios

Sean D. Jenkins, Technical Supervisor for Disney's Hyperion Renderer
Walt Disney Animation Studios

Disney•Pixar's "Lava": Moving Mountains

Tuesday, 11 August, 10:45 am-12:15 pm

"Lava" is a love letter to volcanoes and the beauty of tropical islands. But even more, it's a musical work of art that required unique collaboration among Pixar's artists. From designing a main character that is also the main set, to integrating a unique set of new lighting tools, to telling a story in song, the production required all teams to work in a collaborative and improvisational way, which was both terrifying and exhilarating as all the components came together. This session explains how "Lava" came to life as the teams were inspired by each other's artistic choices to create an explosive vision.

Panelists

James Murphy, Director
Pixar Animation Studios

Colin Levy, Camera Supervisor
Pixar Animation Studios

Aaron Hartline, Supervising Animator
Pixar Animation Studios

Austin Lee, Modeling & Rigging Lead
Pixar Animation Studios

Dirk Van Gelder, Real-Time Software Development
Pixar Animation Studios

Byron Bashforth, Shading & Painting Lead
Pixar Animation Studios

Bill Watral, Supervising Technical Director
Pixar Animation Studios

Jesse Hollander, Lighting Supervisor
Pixar Animation Studios

Weta Digital Presents: Over 20 Years of Creativity and Innovation

Tuesday, 11 August, 10:45 am-12:15 pm

"The Hobbit: The Battle of the Five Armies" marks the end of an era for Weta Digital. The visual effects for the Hobbit trilogy were an extraordinary undertaking, from ground-breaking CG creature and character work (including Gollum, Smaug, and Azog) to giant battle sequences; complex fire, destruction, and water effects; and vast digital environments. Over the course of the three films Weta Digital challenged what was possible in visual effects, culminating in the creation of a proprietary renderer, Manuka, that was used to render the third film. These achievements offer a snapshot of the current state of visual effects and point the way to a new era of digital filmmaking.

Joe Letteri and members of Weta Digital's VFX team discuss how 20 years of creativity and innovation came together in "The Hobbit: The Battle of the Five Armies" with a particular focus on Peter Jackson's extensive use of virtual-production techniques.

Panelists

Joe Letteri, Senior VFX Supervisor
Weta Digital

Matt Aitken, VFX Supervisor
Weta Digital

David Clayton, Animation Supervisor
Weta Digital

Double Negative Presents: The Visual Effects of "Interstellar"

Tuesday, 11 August, 2-3:30 pm

Christopher Nolan's science-fiction epic "Interstellar" presented Double Negative with a wide variety of computer graphics challenges. This session discusses all aspects of the visual effects work on the film, from the use of traditional, practical techniques such as miniatures to the role that theoretical physics played in how the visual effects were designed. Topics include: how Double Negative collaborated with Kip Thorne to develop a new renderer to ray-trace through gravitationally warped space, creation of a 4000-foot wave, and design of a virtual environment to represent higher spatial dimensions. This visual effects project in the region where art and science overlap resulted in two academic physics papers, authored by the panelists.

Panelists

Kip Thorne, Executive Producer and Science Advisor on "Interstellar", and Feynman Professor of Theoretical Physics, Emeritus
California Institute of Technology

Paul Franklin, VFX Supervisor
Double Negative

Oliver James, Chief Scientist
Double Negative

Eugénie von Tunzelmann, CG Supervisor
Double Negative

Inside the Mind: The Making of Disney•Pixar's "Inside Out"

Tuesday, 11 August, 2-3:30 pm

From concept art to a bright and vibrant animated world, in this session Pixar filmmakers describe the process of designing, building, and bringing to life the world inside a young girl's mind. They discuss the challenges that come with turning emotions into characters and translating the mind into an expansive set where the adventure unfolds.

Panelists

Amy Allen, Set Dressing Lead
Pixar Animation Studios

Gary Bruins, Effects Supervisor
Pixar Animation Studios

Michael Fong, Supervising Technical Director
Pixar Animation Studios

Albert Lozano, Character Art Director
Pixar Animation Studios

Edward Luong, Software R&D Engineer
Pixar Animation Studios

Paul Mendoza, Second Unit and Crowds Animation Supervisor
Pixar Animation Studios

Sudeep Rangaswamy, Lighting Technical Lead
Pixar Animation Studios

From Post-it to Post Production, The Uncompromising Journey of "The Book of Life"

Wednesday, 12 August, 10:45 am-12:15 pm

Key project supervisors present a unique behind-the-scenes exploration of the visually inspiring, Golden Globe-nominated feature "The Book of Life". Art, animation, CG, and VFX leads explain working with the director's unique, stylized artistic vision and translating it into 3D: highly stylized wooden characters rich in culture and symbolism; mythological characters made of wax, tar, and sugar; and fantastical worlds with a completely unique animated look.

The director guides attendees through an in-depth look at the ideas behind the design of the film and the color-script development from art to lighting. The head of animation summarizes breathing life into magical wooden characters through innovative rigging and animation techniques. The CG supervisor reviews the procedural systems, and the lighting and texture challenges of bringing three fantastical, symbolically rich worlds to life. And the VFX supervisor discusses the complexity of maintaining the director's unique vision from art to stereo.

Panelists

Jorge Gutiérrez, Director
Reel FX Creative Studios

Augusto Schillaci, VFX Supervisor
Reel FX Creative Studios

Glo Minaya, CG Supervisor
Reel FX Creative Studios

Wes Mandell, Head of Animation
Reel FX Creative Studios

Image Engine Presents: Breathing Life Into "CHAPPiE"

Wednesday, 12 August, 10:45 am-12:15 pm

In "CHAPPiE", a unique action sci-fi comedy by Director Neill Blomkamp, the lead actor is a digitally created childlike robot who conveys a rich array of emotions as he interacts with the human characters around him. In this session, supervisors from Image Engine reveal how a small production team brought "CHAPPiE" to life, delivering nearly 1000 shots and over 60 minutes of screen time to the digital, believable hero. With a wide array of visuals covering concept design to asset builds, on-set capture to final performance, postvis to final integration, the panel presents a behind-the-scenes look at the challenges involved in creating a character that audiences not only accept as real but connect to.

Panelists

Chris Harvey, Overall Visual Effects Supervisor
Image Engine Design Inc.

Mark Wendell, CG Supervisor
Image Engine Design Inc.

Mathias Lautour, Look Development Lead
Image Engine Design Inc.

Earl Fast, Animation Lead
Image Engine Design Inc.

DreamWorks Animation Presents: "HOME": Just Another Post-Apocalyptic-Alien-Invasion-Buddy-Road Movie?

Wednesday, 12 August, 2-3:30 pm

If you've seen one post-apocalyptic-alien-invasion-buddy-road-movie, you've seen them all, right? Well, forget everything you know about those movie archetypes. In this session, the creative leadership of "HOME" presents how they researched all those genres and then chose a different path by asking: How do you make alien invaders cute and likeable? How can a post-apocalyptic world be fun and friendly? What would make advanced alien technology devastating yet silly?

The creative team also explains the complexity behind "simple" alien characters who have six legs and whose look and color were controlled by animation and challenges with a young girl who uses her constantly changing hairstyles to express her character arc. (Normally, we'd say NO to this, but thanks to new technology … well, OK.)

Panelists

Tim Johnson, Director
DreamWorks Animation SKG, Inc.

Mahesh Ramasubramanian, VFX Supervisor
DreamWorks Animation SKG, Inc.

Jason Reisig, Head of Character Animation
DreamWorks Animation SKG, Inc.

Emil Mitev, Art Director
DreamWorks Animation SKG, Inc.

The Park is Open: Journey to "Jurassic World" with Industrial Light & Magic

Wednesday, 12 August, 2-3:30 pm

In 1993 ILM brought living, breathing dinosaurs back from extinction, a move that would help shape the future of cinema itself. Steeped in the Jurassic franchise, the ILM panelists share the advanced on-set visualization tools used during production and the new visual effects techniques developed for modeling and texturing, environment creation, and advanced motion capture retargeting technology that allowed ILM to breathe life into "Jurassic World", the latest installment directed by Colin Trevorrow.

Panelists

Tim Alexander, VFX Supervisor
Industrial Light & Magic

Tony Plett, Associate VFX Supervisor
Industrial Light & Magic

Glen McIntosh, Animation Supervisor
Industrial Light & Magic

Kevin Wooley, Motion Capture Supervisor
Industrial Light & Magic

Fix the Future: Industrial Light & Magic and Visual Effects of "Tomorrowland"

Wednesday, 12 August, 3:45-5:15 pm

ILM panelists discuss methodologies used to capture the visual effects sequences during production, how the CG city was architected from the ground up, and the production challenges and workflow solutions that were developed to deliver this first-ever, 4K high-dynamic-range release.

Panelists

Craig Hammack, VFX Supervisor
Industrial Light & Magic

Eddie Pasquarello, VFX Supervisor
Industrial Light & Magic

Maia Kayser, Animation Supervisor
Industrial Light & Magic

Barry Williams, Environments Supervisor
Industrial Light & Magic

"The Peanuts Movie": From Comic Strip to Feature Film

**Thursday, 13 August,
10:45 am-12:15 pm**

Bringing the iconic characters of Charles Schulz's beloved comic strip "Peanuts" to life in CG was an exciting and unprecedented opportunity for the creative and technical teams at Blue Sky Studios. To begin the development process, a small group of artists including art director Nash Dunningan, animation supervisors Nick Bruno and Scott Carrol, and CG supervisor Rob Cavaleri, along with director Steve Martino and a few others decided on two key elements that would affect the outcome of the film's aesthetic: the design and animation style. These style choices presented new artistic and technical challenges for the studio's production pipeline.

This panel shares insights into those early conversations, decisions, and solutions, and explains how the Blue Sky team brought the classic pen lines of Charles Schulz to the big screen.

Panelists

Nash Dunnigan, Art Director
Blue Sky Studios

Nick Bruno, Animation Supervisor
Blue Sky Studios

Scott Carroll, Animation Supervisor
Blue Sky Studios

Rob Cavaleri, CG Supervisor
Blue Sky Studios

The Making of Marvel's "Ant-Man"

Thursday, 13 August, 2-3:30 pm

The next evolution of the Marvel cinematic universe brings a founding member of The Avengers to the big screen for the first time. Armed with the astonishing ability to shrink in scale but increase in strength, master thief Scott Lang must embrace his inner hero and help his mentor, Dr. Hank Pym, protect the secret behind his spectacular Ant-Man suit from a new generation of towering threats. Against seemingly insurmountable obstacles, Pym and Lang must plan and pull off a heist that will save the world. This behind-the-scenes session explores the making of the visual effects for "Ant-Man".

Panelists

Victoria Alonso, EVP of Visual Effects and Post Production, Marvel Studios & Executive Producer Marvel's "Ant-Man"
Marvel Entertainment

Jake Morrison, Visual Effects Supervisor
Marvel Entertainment

Diana Giorgiutti, Visual Effects Producer
Marvel Entertainment

Alex Wuttke, VFX Supervisor
Double Negative

Vince Cirelli, VFX Supervisor
Luma Pictures

Greg Steele, VFX Supervisor
Method Studios

The Making of the Characters of Marvel's "Avengers: Age of Ultron"

Thursday, 13 August, 3:45-5:15 pm

Marvel Studios presents "Avengers: Age of Ultron" the epic follow-up to the biggest super-hero movie of all time. When Tony Stark tries to jump start a dormant peacekeeping program, things go awry, and Earth's mightiest heroes, including Iron Man, Captain America, Thor, The Incredible Hulk, Black Widow, and Hawkeye, are put to the ultimate test as the fate of the planet hangs in the balance. As the villainous Ultron emerges, it is up to The Avengers to stop him from enacting his terrible plans, and soon uneasy alliances and unexpected action pave the way for an epic and unique global adventure. This behind-the-scenes session explores the making of the "Age of Ultron" characters.

Panelists

Victoria Alonso, Executive Vice President of Visual Effects and Post Production, Marvel Studios & Executive Producer Marvel's "Avengers: Age of Ultron"
Marvel Entertainment

Christopher Townsend, Visual Effects Supervisor
Marvel Entertainment

Ben Snow, VFX Supervisor
Industrial Light & Magic

Marc Chu, Animation Director
Industrial Light & Magic

Trent Claus, VFX Supervisor
Lola VFX

Real-Time Live!

FP F S #SIGGRAPH2015

An interactive extravaganza that celebrates the real-time achievements within the intersection of genius technical skills and creative beauty. Real-Time Live! shows off the latest trends and techniques for pushing the boundaries of interactive visuals.

A preliminary list of Real-Time Live! presentations.
Visit s2015.siggraph.org for an updated list.

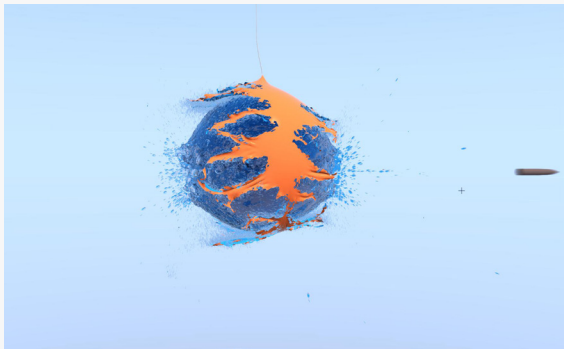

Image Credit (Right): Balloon Burst © 2015 Miles, Macklin, Nuttapong Chentanez, Matthias Mueller, Tae-Yong Kim, NVIDIA Corporation

Image Credit (Below): Birdly © 2014 Max Rheiner, Fabian Troxler, Thomas Tobler, Thomas Erdin, Zürcher Hochschule der Künste

Immersive Realities (AR/VR) Contest

Developers create and showcase the best immersive-reality applications possible using today's technologies. The winning team is announced from the Real-Time Live! stage.

All finalists also have the opportunity to demonstrate their systems to attendees during SIGGRAPH 2015's Appy Hour, Wednesday, 12 August, 5-7 pm.

BabyX and the Auckland Face Simulator

The Auckland Face Simulator supports extremely realistic and precisely controllable models of the human face and its expressive dynamics for psychology research. BabyX is an autonomously animated psycho-biological simulation of an infant that reacts and learns in real time.

Mark Sagar
David Bullivant
Paul Robertson
Oleg Efimov
Khurram Jawed
Ratheesh Kalarot
Tim Wu
Werner Ollewgen
Laboratory for Animate Technologies

Balloon Burst

This demo shows, for the first time, a large-scale simulation of water interacting with a thin elastic surface in real time. It simulates 250K particles representing the objects and 512K spray particles with the NVIDIA unified solver Flex and uses ray-marching to render the water surface.

Nuttapong Chentanez
Miles Macklins
Matthias Müller
Tae-Yong Kim
NVIDIA Corporation

"The Blacksmith" Real-Time Short Film

"The Blacksmith" is a real-time-rendered short film that pushes the limit on graphics quality achievable with a game engine. It uses real-time global illumination and physically based shading, and runs at 30 fps on mid-range gaming hardware. The film was created by a very small team.

Veselin Efremov
Torbjorn Laedre
Unity Technologies

Fast Teeth Scanning for Advanced Digital Dentistry

Demonstration of a real-time interactive 3D system for scanning teeth, which is capable of scanning reflective and semi-translucent materials with micron-level resolution and high accuracy.

Peter Dahl Ejby Jensen
Michael Bing
Jens Christian Jørgensen
Sverker Rasmuson
Lene Lillemark
Morten Ryde Holm-Hansen
Henrik Öjelund
3Shape A/S

Kite

"Kite" is an animated short film that Epic Games created to show off new features of the Unreal Engine. It runs completely in real time at 30fps. It is set in a realistic open-world area measuring 100 square miles.

Gavin Moran
Kim Libreri
Epic Games, Inc.

My Digital Face

Near-automatic creation of a controllable, photorealistic face from a $100 depth sensor. A set of blendshapes is generated from sensor scans and transformed with tracking software. The resulting face retains a high-quality appearance and is suitable for many applications.

Dan Casas
Oleg Alexander
Andrew Feng
Graham Fyffe
Ryosuke Ichikari
Paul Debevec
Ruizhe Wang
Evan Suma
Ari Shapiro
USC Institute for Creative Technologies

Real-Time Cinematic Shot Lighting in The Order: 1886

This demo shows an example of a real-time cinematic sequence from The Order: 1886, peeling back the curtain on the smoke and mirrors behind the shot-based lighting system that allowed the production to deliver pre-rendered CG levels of fidelity to real-time cutscenes.

Nathan Phail-Liff
Ready at Dawn Studios

Studio

FP F S E+ Ex #SIGGRAPH2015

A preliminary list of Studio Courses, Talks, and Projects.
Visit S2015.SIGGRAPH.ORG for updates.

The world is becoming more malleable by the day, with new tools, applications, and methods to create, craft, build, and share. The Studio focuses on disruptive practices in the world of content creation. It presents projects from alternative fields that utilize and build new foundations in computer graphics – particularly those that extend beyond traditional screens and into the physical world through novel interactivity.

Seating is on a first-come, first-served basis.
Please arrive early for the Studio Talks and Courses you wish to attend.

Image Credit: Keeping it Real – The Making of Lumino City © 2015 Daniel Fountain, Luke Whittaker, State of Play Games

Studio Courses

Digital T-Shirt Design and Printing

Sunday, 9 August, 2-3:30 pm

In this Studio Course, attendees learn best practices for designing graphics for digital direct-to-garment printers. Attendees can print their designs on a t-shirt printer and enter their shirts in the T-Shirt Design Competition!

Eddie Murphy
EPSON

GAMES

Build Your Own Game Controller

Monday, 10 August, 3:45-5:15 pm

In this course, attendees build game controllers from scratch to provide input for a variety of PC games. Topics include: resistors, switches, and using Arduino to behave as a USB keyboard and mouse.

Josef Spjut
NVIDIA Corporation

Richard Piersall
Kirklann Lau
Harvey Mudd College

MOBILE

Compute for Mobile Devices: Performance-Focused Hands-On

Tuesday, 11 August, 9-10:30 am

Hands-on experience with existing APIs for accelerating compute-intensive portions of a mobile application. Topics include: RenderScript, Metal, OpenCL, GLES pixel, and recent compute shaders, plus CUDA.

Maxim Shevtsov
Intel Corporation

MOBILE

Beginning Native Android Apps

Wednesday, 12 August, 9-10:30 am

Learn the basics of the Android environment and how easy it is to develop apps for Android.

Gil Irizarry
Conoa, Inc.

Shadertoy Workshop

Wednesday, 12 August, 10:45 am-12:15 pm
INVITED

In the Shadertoy Workshop, intermediate-level shader creators master the most important building blocks of procedural content creation (raymarching, noise, lighting, etc.). During the workshop, attendees create their very own procedural shaders.

Inigo Quilez
Pol Jeremias
Beautypi

EDUCATION

Design Machines – Part I & II

Wednesday, 12 August, 2-3:30 pm
Wednesday, 12 August, 3:45-5:15 pm

This Studio Course features rapid-fire prototyping of a CNC design tool. Using the modular Machines that Make construction kit, attendees design, program, and build machines and interfaces, including controls, user interfaces, and kinematics.

Nadya Peek
James Coleman
Massachusetts Institute of Technology

If you are interested in this Course, you may want to attend the Studio Talk on Sunday, 9 August, 3:45-5:15 pm.

Studio Talk Sessions

Machine Phenomena

Sunday, 9 August, 3:45-5:15 pm

Interactive Robogami

Adriana Schulz
Cynthia Sung
Andrew Spielberg
Wei Zhao
Robin Cheng
Ankur Mehta
Eitan Grinspun
Daniela Rus
Wojciech Matusik
Massachusetts Institute of Technology

Design Machines

Nadya Peek
James Coleman
Massachusetts Institute of Technology

PaperPulse: An Integrated Approach for Embedding Electronics in Paper Designs

Raf Ramakers
Kashyap Todi
Kris Luyten
Universiteit Hasselt, tUL – iMinds

MOR4R: Microwave Oven Recipes for Resins

Kentaro Yasu
Keio-NUS CUTE Center, National University of Singapore

Wondrous Wearables, A Special Session with the Mi.Mu Gloves Project

Tuesday, 11 August, 9-10:30 am
INVITED

Mi.mu Gloves, A Gestural Interface for the Creative Arts

Imogen Heap
Rachel Freire
Seb Madgwick
Thomas Mitchell
Hannah Perner-Wilson
Kelly Snook
Adam Stark
Chagall van den Berg
Mi.Mu Gloves

Mi.mu Gloves, A More Detailed Look at the Technology

Imogen Heap
Rachel Freire
Seb Madgwick
Thomas Mitchell
Hannah Perner-Wilson
Kelly Snook
Adam Stark
Chagall van den Berg
Mi.Mu Gloves

Crafting Unexpected Rendering Techniques

Tuesday, 11 August, 10:45 am-12:15 pm

Stylized Trees and Landscapes Continued

Laura Murphy
Philip Galanter
Texas A&M University

Chinese Ink-and-Brush Painting With Reflection

Siran Liu
Ergun Akleman
Texas A&M University

FrameShift: Shift Your Attention, Shift the Story

Rukmini Goswami
Tim Tregubov
Lorie Loeb
Dartmouth College

Art Directed Rendering and Shading

Ergun Akleman
Texas A&M University

Donald House
Clemson University

Siran Liu
Texas A&M University

Building Fantastic Worlds, Studio Games Talks 1

Wednesday, 12 August, 9-10:30 am

GAMES PRODUCTION

Keeping it Real — The Making of Lumino City

Daniel Fountain
Luke Whittaker
State of Play Games

GAMES PRODUCTION

The Art of The Witness

Orsi Spanyol
Thekla, Inc.

GAMES

User-Centric Tools Programming in Firewatch
INVITED

Paolo Surricchio
Campo Santo

Building Fantastic Worlds, Studio Games Talks 2

Wednesday, 12 August, 10:45 am-12:15 pm

GAMES

Authoring of Procedural Environments in "The Blacksmith" Real-Time Short Film

Veselin Efremov
Unity Technologies

GAMES

The Talos Principle Photogrammetry Workflow
INVITED

Admir Elezovic
Croteam

New XRoads of Disruptive Tools

Thursday, 13 August, 9-10:30 am

Scanning and Printing a 3D Presidential Portrait

Adam Metallo
Vincent Rossi
Jonathan Blundell
Günter Waibel
Smithsonian Institution

Paul Graham
Graham Fyffe
Xueming Yu
USC Institute for Creative Technologies

Paul Debevec
University of Southern California, USC Institute for Creative Technologies

EDUCATION RESEARCH

Haptic Collaboration: Biomedical Engineering Meets Digital Design

Taro Narahara
Kevin Abbruzzese
Richard Foulds
New Jersey Institute of Technology

PHYSICAL 3D

3D-Printed Prosthetics for the Developing World

Ryan Schmidt
Autodesk, Inc.

Ginger Coons
Vincent Chen
Timotheus Gmeiner
Matt Ratto
University of Toronto

Quilted Creations and Imaginative Imaging

Thursday, 13 August
10:45 am-12:15 pm
INVITED

eBee: An Electronics Quilting Bee and Game

Gillian Smith
Northeastern University

Polarized 3D: Extreme-Quality Depth Sensing via Polarization Cues

Achuta Kadambi
Massachusetts Institute of Technology

Mirror Mirror: An On-Body Clothing Design System

Daniel Saakes
Hui-Shyong Yeo
Gyeol Han
Woontack Woo
Seung-Tak Noh
Korea Advanced Institute of Science and Technology (KAIST)

A Noise-Based Curriculum for Technological Fluency

Erik Brunvand
University of Utah

RESEARCH

Studio Technical Papers Projects

The Studio is collaborating with the SIGGRAPH 2015 Technical Papers program to bring a small selection of papers into Studio Projects.

Visit **s2015.siggraph.org** for updated information.

Studio Projects

The Build Shop Presents "Paper Portraits"

Learn about the Los Angeles maker movement and slice, dice, and laser-cut a digital self-portrait, in 3D! The Build Shop demonstrates technologies available in its downtown DIY shop. Attendees create 3D cardboard self-portraits to take home from SIGGRAPH 2015.

ARTS GAMES

eBee: An Electronics Quilting Bee and Game

In the eBee, attendees create their own electronics-enabled quilting blocks, then work together with other attendees to design a game that uses the currently available quilt blocks. The result of the eBee is a unique, electronics-enabled, quilt-inspired art piece.

If you are interested in this installation, you may want to attend the Studio Talk on Thursday, 13 August, 10:45 am-12:15 pm.

AR/VR ARTS PHYSICAL 3D

Hyve-3D and Rethinking the 3D Cursor: Unfolding a Natural Interaction Model for Remote and Local Co-Design in VR

This installation presents a new environment to actively create 3D content inside virtual worlds by collaborative (local and remote) 3D sketching. In a concave-spherical immersive environment, attendees explore a novel natural interaction using planes that are intuitively manipulated in space by handheld tablets tracked in six degrees of freedom.

Making it Real: Crafting a World With Lumino City

INVITED

State of Play Games, known for making games by hand, presents a hands-on project that teaches the process of crafting a physical set (like Lumino City) with a variety of tools and techniques before transforming it into a digital play experience.

If you are interested in this installation, you may want to attend the Studio Talk on Wednesday, 12 August, 9-10:30 am.

Mi.Mu Gloves Project, An Exploration of a Hackable Gestural Interface

INVITED

Attendees work with members of the Mi.Mu Gloves team to explore this uniquely powerful control system. The interface can be customized to support novel interactions with music and visuals.

If you are interested in this installation, you may want to attend the Studio Talk on Tuesday, 11 August, 9-10:30 am.

ARTS

Mirror Mirror: An On-Body Clothing-Design System

An interactive personal clothing-design system. Virtual designs are projected on the user's body and observed in a mirror's reflection as if the clothes are really "worn." Final designs are exported for fabrication of real garments.

If you are interested in this installation, you may want to attend the Studio Talk on Thursday, 13 August, 10:45 am-12:15 pm.

ARTS

MOR4R: Microwave Oven Recipes for Resins

This research presents a technique to make an acrylic (PMMA) 3D craft using a microwave oven. By pasting a properly sized susceptor sheet to the PMMA and microwaving it for about two, the creator can bend and cut the PMMA sheet with hands and scissors.

If you are interested in this installation, you may want to attend the Studio Talk on Sunday, 9 August, 3:45-5:15 pm.

ARTS

PaperPulse: An Integrated Approach for Embedding Electronics in Paper Designs

A design tool that enables designers without a technical background to produce interactive paper artifacts by augmenting them with electronics. Users overlay visual elements with interactive widgets and specify functional relations between them. Afterwards, PaperPulse generates layered electronic circuit designs, code for the microcontroller, and instructions for assembly.

If you are interested in this installation, you may want to attend the Studio Talk on Sunday, 9 August, 3:45-5:15 pm and view the e-Poster.

RESEARCH

Polarized 3D: Synthesis of Polarization and Depth Cues for Enhanced 3D Sensing

An enhancement technique that can be applied to a variety of depth maps. Incorporating polarization cues into the depth-sensing pipeline demonstrates enhanced 3D scanning resolution and accuracy.

If you are interested in this installation, you may want to attend the Studio Talk on Thursday, 13 August, 10:45 am-12:15 pm.

Talks highlight the latest developments before publication, present ideas that are still in progress, or showcase how computer graphics and interactive techniques are actually implemented and used, in graphics production or other fields.

Full Conference Platinum and Full Conference registration allows attendees access to all SIGGRAPH 2015 Talks.

Seating is on a first-come, first-served basis.
Please arrive early for the Talk session you wish to attend.

Image Credit: Labs R&D: Rendering Techniques in Rise of the Tomb Raider
© 2015 Anton Michels, Peter Skachev, Eidos Montreal

Sunday, 9 August

FIRST-TIMER

Visual Effects at LAIKA: A Crossroads of Art and Technology

Sunday, 9 August, 10:45 am-12:15 pm
INVITED

Steve Emerson
LAIKA

GAMES PRODUCTION

Killing Monsters: Behind the Scenes of the Witcher 3

Sunday, 9 August, 10:45 am-12:15 pm
INVITED

Building the World of The Witcher 3: Wild Hunt

Balazs Torok
Krzysztof Krzyscin
CD Projekt RED

Rendering Features of The Witcher 3: Wild Hunt

Balazs Torok
Krzysztof Krzyscin
CD Projekt RED

ANIMATION & VFX

Crowds and Complexity

Sunday, 9 August, 10:45 am-12:15 pm
Session Chair: Jerry Edsall,
Microsoft's Black Tusk Studios

T1000: Effects-Driven Character Performance in "Terminator Genisys"

Jamie Haydock
Double Negative Visual Effects

A Modular Crowd (n)Cloth System for Exodus: Gods and Kings

Clair Bellens
Marco D'Ambros
Moving Picture Company

"Jupiter Ascending": Constructing Large-Scale Environments

James Bird
Maxim Fleury
Double Negative Visual Effects

Real-Time Crowd Visualization in Point-Cached Pipelines

Jeremy Cowles
Takahito Tejima
David Yu
Pixar Animation Studios

ANIMATION & VFX PRODUCTION

Inside Your Head and Out of This World

Sunday, 9 August, 2-3:30 pm
Session Chair: Rajesh Sharma,
Walt Disney Animation Studios

An Abstract Journey

Albert Lozano
Ron Zorman
Masha Ellsworth
Bernhard Haux
Jonas Jarvers
Evan Bonifacio
Sajan Skaria
Colin Levy
Ken Lao
Sarah Fowler
Pixar Animation Studios

The Ins and Outs of Camera Structure on "Inside Out"

Patrick Lin
Pixar Animation Studios

The Screens of "Inside Out"

Eric Andraos
Michael Sparber
Pixar Animation Studios

Emoting Boov in "Home"

Amaury Aubel
DreamWorks Animation SKG, Inc.

GAMES

Bringing Worlds to Life: Inside the Minds of Avalanche Studios

Sunday, 9 August, 2-3:30 pm
Session Chair: Jan Schmid,
DICE, Electronic Arts

INVITED

Doing R&D for Open Worlds

Emil Persson
Avalanche Studios

A Landscape Engine for A New Generation of Open-World Games

Christian Nilsendahl
Avalanche Studios

Using GPU Compute for Productivity and Play

Engin Cilasun
Avalanche Studios

Efficient Production Techniques for High-Quality Lighting in Vast Open-World Games

Carl Ross
Emil Persson
Avalanche Studios

ANIMATION & VFX PRODUCTION GAMES

On and Under the Surface

Sunday, 9 August, 2-3:30 pm
Session Chair: Tim McLaughlin,
Texas A&M University

Real-Time Transformations in The Order: 1886

Sean Weronko
Scot Andreason
Ready at Dawn Studios

Multi-Resolution Geometric Transfer for "Jurassic World"

Rachel Rose
Yuting Ye
Industrial Light & Magic

Under the Scalpel: ILM's Digital Flesh Workflows

Sean Comer
Jacob Buck
Brice Criswell
Industrial Light & Magic

Achieving Real-Time Playback With Production Rigs

Andy Lin
Gene Lee
Joe Longson
Jay Steele
Evan Goldberg
Rastko Stefanovic
Walt Disney Animation Studios

PRODUCTION

Off the Beaten Path (Tracing)

Sunday, 9 August, 3:45-5:35 pm
Session Chair: Chris Wyman,
NVIDIA Corporation

Building the Black Hole in "Interstellar": The Gravitational Renderer

Oliver James
Sylvan Dieckmann
Simon Pabst
Paul-George Roberts
Double Negative Visual Effects

Kip Thorne
California Institute of Technology

Stackless Ray Tracing of Patches from Feature-Adaptive Subdivision on GPUs

Nikolaus Binder
Alexander Keller
NVIDIA Corporation

A Practical and Controllable Hair and Fur Model for Production Path Tracing

Matt Jen-Yuan Chiang
Walt Disney Animation Studios

Benedikt Bitterli
Disney Research, Walt Disney Animation Studios

Chuck Tappan
Brent Burley
Walt Disney Animation Studios

Art-Directable Volumetric Multiple Scattering

Magnus Wrenninge
Pixar Animation Studios

An Approximate Reflectance Profile for Efficient Subsurface Scattering

Per Christensen
Pixar Animation Studios

ANIMATION & VFX PRODUCTION

An Animator's (Day) Dream

Sunday, 9 August, 3:45-5:15 pm
Session Chair: Joe Spataro,
Bungie, Inc.

Sketch to Pose in Pixar's Presto Animation System

Ryan Stelzleni
Bret Parker
Tom Hahn
Sarah Shen
Dan McGarry
Chen Shen
Pixar Animation Studios

Silhouette Sketching on "Inside Out"

Kurt Fleischer
Pixar Animation Studios

Paul Isaacs
Google, Inc.

Bret Parker
Sarah Shen
Bernhard Haux
Tom Hahn
Chen Shen
Andrew Butts
Jayson Price
Venkat Krishna
Heegun Lee
Pixar Animation Studios

Developing Joy for "Inside Out"

Jacob Merrell
Bob Moyer
Alexis Angelidis
Angelique Reisch
Pixar Animation Studios

Animation Recipes: Turning an Animator's Trick Into an Automatic Animation System

Chen Shen
Tom Hahn
Bret Parker
Sarah Shen
Pixar Animation Studios

Monday, 10 August

ANIMATION & VFX PRODUCTION

Capturing the World

Monday, 10 August, 9-10:30 am
Session Chair: Kenny Mitchell,
Disney Research

Panocam & Postvis for the Chicago Chase in "Jupiter Ascending"

Tom Proctor
Christopher Sweet
Kyle Goodsell
Daniel Rauchwerger
Double Negative Visual Effects

Roundshot Pipeline at MPC for "Godzilla"

Daniel Vasquez
Kirk Chantraine
Moving Picture Company

FlashMob: Near-Instant Capture of High-Resolution Facial Geometry and Reflectance

Paul Graham
Graham Fyffe
Borom Tunwattanapong
USC Institute for Creative Technologies

Abhijeet Ghosh
Imperial College London

Paul Debevec
USC Institute for Creative Technologies

Blendshapes From Commodity RGB-D Sensor

Dan Casas
Oleg Alexander
Andrew Feng
Graham Fyffe
Ryosuke Ichikari
Paul Debevec
USC Institute for Creative Technologies

Ruizhe Wang
University of Southern California

Evan Suma
Ari Shapiro
USC Institute for Creative Technologies

ANIMATION & VFX PRODUCTION

Links and Locks

Monday, 10 August, 3:45-5:35 pm
Session Chair: Doug Roble,
Digital Domain

Rigid Link Chains in "Kung Fu Panda 3"

Jason Weber
DreamWorks Animation SKG, Inc.

Hair Smash

Colleen O'Hagan
Arunachalam Somasundaram
Jason Weber
DreamWorks Animation SKG, Inc.

Dynamically Controlling Hair Interpolation

Arunachalam Somasundaram
DreamWorks Animation SKG, Inc.

Interactive Script-Based Dynamics in "Big Hero 6"

Dong Joo Byun
Zubin Wadia
Michael Kaschalk
Walt Disney Animation Studios

Coloring and Texturing Volume Simulations From Texture Images

Jihyun Yoon
DreamWorks Animation SKG, Inc.

Tuesday, 11 August

ANIMATION & VFX PRODUCTION

Got 'Bots

Tuesday, 11 August, 9-10:30 am
Session Chair: Ann McNamara,
Texas A&M University

"X-Men Days of Future Past": Directing a Highly Complex Shape-Shifting Sentinel

Tony Micilotta
The Moving Picture Company

Procedural Animation Technology Behind the Microbots in "Big Hero 6"

Dong Joo Byun
Henrik Falt
Ben Frost
Mir Ali
Eric Daniels
Peter De Mund
Michael Kaschalk
Walt Disney Animation Studios

ANIMATION & VFX PRODUCTION GAMES

Effects Omelette

Tuesday, 11 August, 10:45 am-12:15 pm
Session Chair: Cindy Grimm,
Oregon State University

"Ex Machina": Rigging Beneath the Surface

Mark Ardington
Double Negative Visual Effects

Raptor Wrangling: Real-Time Motion Capture for "Jurassic World"

Kevin Wooley
Noah Lockwood
Yoojin Jang
Industrial Light & Magic

Real-Time 3D Character Integration Into a Real-World Environment Using Reconstructed Z Depth

Tom Hart
Minoru Nakai
Capcom Co, Ltd.

Distributing Liquids Using OpenVDB

Dan Bailey
Harry Biddle
Matthew Warner
Nick Avramoussis
Double Negative Visual Effects

FIRST-TIMER ANIMATION & VFX GAMES PRODUCTION

Behind the Cinematics of Blizzard Entertainment's Overwatch

Tuesday, 11 August, 3:45-5:15 pm
Session Chair: Micheal Hardison,
Blizzard Entertainment, Inc.
INVITED

Defining a New Look: The Art and Style of Blizzard's Overwatch Cinematic

Jeff Chamberlain
Jim Jiang
Xin Wang
Blizzard Entertainment

Bringing Characters to Life: The Rigging and FX of Blizzard's Overwatch Cinematic

Michael Sandrik
Dave Stephens
Dan Cox
Blizzard Entertainment

Wednesday, 12 August

ANIMATION & VFX PRODUCTION

Dream Big (Peanuts)

Wednesday, 12 August, 8:30-10:30 am
Session Chair: Glo Minaya,
Reel FX

You've Got a Lot of Friends, Charlie Brown: Creating Crowds in "Peanuts"

Mark Adams
Greg Mourino
Mason Evans
Kevin Edzenga
Blue Sky Studios

The Digital Cinematography of "The Peanuts Movie"

Karyn Monschein
Ken Lee
Blue Sky Studios

Hand-Drawn-Looking Volumetric Effects in "The Peanuts Movie"

Ilan Gabai
Alen Lai
Blue Sky Studios

It's a UVN Face Rig, Charlie Brown: Facial Techniques for "Peanuts"

Adam Burr
Stephen Gressak
Matthew Doble
Christian Haniszewski
Ignacio Barrios
Brian Anderson
Ferris Webby
Sabine Heller
Blue Sky Studios

Head, Shoulders, Knees, and Toes: Interpreting Schulz in 3D

Michael Reed
Sabine Heller
Nikki Tomaino
Marin Petrov
Steven Song
Steven Vanseth
Blue Sky Studios

AR/VR GAMES MOBILE

On the Move

Wednesday, 12 August, 10:45 am-12:30 pm
Session Chair: Jesse Barker,
ARM, Inc.

Mobile Vision: How We Must Augment APIs to Enable a New Reality

Alon Or-bach
Samsung R&D Institute UK

Performance and Precision: Mobile Solutions for High-Quality Engineering Drawings

Ravi Krishnaswamy
Sean James
Autodesk Inc.

Impact of CPU-GPU Data Transfers on Mobile Device GPGPU

Tommaso Maestri
Samsung R&D Institute UK

Challenges With Virtual Reality on Mobile Devices

Prashant Sharma
Samsung R&D Institute UK

The Many Faces Of Font Rendering

Christopher Hebert
Samsung Electronics Co. Ltd.

ANIMATION & VFX AR/VR PRODUCTION

Supernatural

Wednesday, 12 August, 10:45 am-12:15 pm
Session Chair: Eleni Kostis,
Goddard Space Flight Center/National Aeronautics and Space Administration

Water Simulation in "Jupiter Ascending"

Fabio Cerrito
Double Negative Visual Effects

Wrangling a Gas Giant for "Jupiter Ascending"

Jordan Walsh
Tobias Keip
Double Negative Visual Effects

"Big Hero 6": Into the Portal

David Hutchins
Olun Riley
Jesse Erickson
Alexey Stomakhin
Ralf Habel
Michael Kaschalk
The Walt Disney Company

Visualizing the Cosmos: a Procedural Approach

Dominique Vidal
BUF Compagnie

FIRST-TIMER GAMES PRODUCTION

Werewolves in London: The Order - 1886 Production Talks

Wednesday, 12 August, 2-3:30 pm
Session Chair: Micheal Hardison,
Blizzard Entertainment, Inc.
INVITED

Crafting Victorian London: The Environment Art and Material Pipelines of The Order: 1886

Nathan Phail-Liff
Scot Andreason
Anthony Vitale
Ready at Dawn Studios

Melton and Moustaches: The Character Art and Shot Lighting Pipelines of The Order: 1886

Nathan Phail-Liff
Scot Andreason
Ready at Dawn Studios

PRODUCTION

Pipeline & Asset Management

Wednesday, 12 August, 3:45-5:15 pm
Session Chair: Bill Polson,
Pixar Animation Studios

Data Mining for Efficient Render-Farm Management

Adam Wood-Gaines
Josh Grant
Pixar Animation Studios

Environment-Rendering Optimization for Pixar's "The Good Dinosaur"

Daniel Garcia
Pixar Animation Studios

Inigo Quilez
Oculus Story Studio

Dave Dixon
Ariela Federov
Matt Kuruc
Susan Fong
Pixar Animation Studios

Progressive-Render Checkpoint Workflows in Production

Alex Harvill
Andrew Kensler
David Laur
Pixar Animation Studios

TaskProcessor: A Pipeline Execution Framework And IDE

Mark McGuire
Oliver Staeubli
Blue Sky Studios

FIRST-TIMER GAMES PRODUCTION

Leap of Faith: The World of Mirror's Edge

Wednesday, 12 August, 3:45-5:15 pm
Session Chair: Juan Miguel de Joya,
Walt Disney Animation Studios, University of California, Berkeley
INVITED

Building the City of Glass in Mirror's Edge

Daniel Johansson
Jan Schmid
DICE, Electronic Arts

Rendering the World of Mirror's Edge

Daniel Johansson
Arne Schodel
Jan Schmid
DICE, Electronic Arts

Thursday, 13 August

Traveling Light

Thursday, 13 August, 9-10:30 am
Session Chair: Derrick Nau,
TRG Reality

GAMES

The Tomorrow Children: Lighting and Mining With Voxels

James McLaren
Tao Yang
Q-Games, Ltd.

Accurate Analytic Approximations for Real-Time Specular Area Lighting

Pascal Lecocq
Gaël Sourimant
Jean-Eudes Marvie
Technicolor

Frustum-Traced Irregular Z-Buffers: Fast, Sub-Pixel-Accurate Hard Shadows

Chris Wyman
Rama Hoetzlein
Aaron Lefohn
NVIDIA Corporation

Accumulative Anti-Aliasing

Eric Enderton
Eric Lum
Christian Rouet
Oleg Kuznetsov
NVIDIA Corporation

ANIMATION & VFX PRODUCTION

I've Got You Covered

Thursday, 13 August, 10:45 am-12:30 pm
Session Chair: Natalya Tatarchuk,
Bungie, Inc.

Feature-Based Texture-Stretch Compensation for 3D Meshes

Stephane Grabli
Kevin Sprout
Yuting Ye
Industrial Light & Magic

From 2D to 3D Painting with Mesh Colors

Thibault Lambert
Stephanie Goix
BUF Compagnie

Façade: Image-Based Set Reconstruction

Kelsey Hurley
Andrew Gartner
Hank Driskill
Chris Springfield
Kyle Odermatt
Walt Disney Animation Studios

Furtility: Robust Hair Styling

Curtis Andrus
Mark Manca
Moving Picture Company

SemanticPaint: Interactive Segmentation and Learning of 3D Worlds

Julien Valentin
Oxford University

Vibhav Vineet
Stanford University

Ming-Ming Cheng
Nankai University

David Kim
Jamie Shotton
Pushmeet Kohli
Microsoft Research

Matthias Niessner
Stanford University

Antonio Criminisi
Shahram Izadi
Microsoft Research

Philip Torr
Oxford University

ANIMATION & VFX PRODUCTION

Follow the Crowd

Thursday, 13 August, 2-3:30 pm
Session Chair: Mark Elendt,
Side Effects Software Inc.

The Artistry of TechAnim: New Cloth Workflows on "Big Hero 6"

Aaron Adams
Dmitriy Pinskiy
Jose Gomez
Edward Robbins
Christopher Gallagher
Evan Goldberg
The Walt Disney Company

Crowd Character Complexity on "Big Hero 6"

Yasser Hamed
John Kahwaty
Andy Lin
Evan Goldberg
Lawrence Chai
Walt Disney Animation Studios

Destroying the Pharaoh's Army - Large-Scale Dynamics in "Exodus"

Kai Wolter
Mariano Blanc
Francisco Gochez
Ruben Diaz Hernandez
Moving Picture Company

Data-Driven Background Crowds in "Exodus: Gods and Kings"

Martin Prazak
Mungo Pay
Damien Maupu
Davide Vercelli
Ian Masters
Double Negative Visual Effects

GAMES PRODUCTION

Labs R&D: The Rendering Techniques of Deus EX: Mankind Divided and Rise of the Tomb Raider

Thursday, 13 August, 3:45-5:15 pm

Rendering Techniques of Deus EX: Mankind Divided

INVITED

Anton Michels
Peter Sikachev
Eidos Montréal

Labs R&D: Rendering Techniques in Rise of the Tomb Raider

Anton Michels
Peter Sikachev
Eidos Montréal

Technical Papers

FP F #SIGGRAPH2015

SIGGRAPH Technical Papers is the premier international forum for disseminating new scholarly work in computer graphics and interactive techniques. At the conference, paper authors provide very brief overviews of their work in the Technical Papers Fast Forward session, and expanded descriptions in the Technical Papers sessions throughout the conference.

Technical Papers are published as a special issue of ACM Transaction on Graphics. In addition to papers selected by the SIGGRAPH 2015 Technical Papers Jury, the conference presents papers that have been published in ACM Transaction on Graphics during the past year.

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Seating is on a first-come, first-served basis.
Please arrive early for the Technical Papers session you wish to attend.

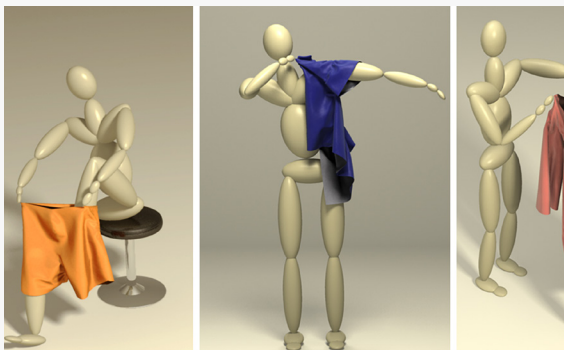

Image Credit: Animating Human Dressing © 2015 Alexander Clegg, Jie Tan, Greg Turk, Karen Liu, Georgia Institute of Technology

Monday, 10 August

FIRST-TIMER

Computational Illumination

Monday, 10 August, 9-10:30 am
Session Chair: Sing Bing Kang, *Microsoft Research*

Homogeneous Codes for Energy-Efficient Illumination and Imaging

Matthew O'Toole
University of Toronto

Supreeth Achar
Srinivasa G. Narasimhan
Carnegie Mellon University

Kiriakos N. Kutulakos
University of Toronto

Doppler Time-of-Flight Imaging

Felix Heide
The University of British Columbia, King Abdullah University of Science and Technology, Stanford University

Wolfgang Heidrich
King Abdullah University of Science and Technology, The University of British Columbia

Gordon Wetzstein
Stanford University

Matthias Hullin
Rheinische Friedrich-Wilhelms-Universität Bonn

Phasor Imaging: A Generalization of Correlation-Based Time-of-Flight Imaging

Mohit Gupta
Shree K. Nayar
Columbia University

Matthias B. Hullin
Jaime Martin
Rheinische Friedrich-Wilhelms-Universität Bonn

Micron-Scale Light Path Decomposition Using Interferometry

Ioannis Gkioulekas
Harvard University

Anat Levin
The Weizmann Institute of Science

Frédo Durand
Massachusetts Institute of Technology

Todd Zickler
Harvard University

Geometry Field Trip

Monday, 10 August, 9-10:30 am
Session Chair: Bruno Levy, *INRIA-Nancy Grand-Est*

Integrable PolyVector Fields

Olga Diamanti
ETH Zürich

Amir Vaxman
Technische Universität Wien

Daniele Panozzo
Olga Sorkine-Hornung
ETH Zürich

Stripe Patterns on Surfaces

Felix Knöppel
Technische Universität Berlin

Keenan Crane
Columbia University

Ulrich Pinkall
Technische Universität Berlin

Peter Schröder
California Institute of Technology

Frame-Field Generation Through Metric Customization

Tengfei Jiang
Xianzhong Fang
Jin Huang
Hujun Bao
Zhejiang University

Yiying Tong
Michigan State University

Mathieu Desbrun
California Institute of Technology

Discrete Derivatives of Vector Fields on Surfaces – An Operator Approach

Omri Azencot, Technion
Israel Institute of Technology
Maks Ovsjanikov
École Polytechnique

Frédéric Chazal
INRIA

Mirela Ben-Chen
Technion - Israel Institute of Technology

Modeling, Controlling & Suturing Humans

Monday, 10 August, 9-10:30 am
Session Chair: Theodore Kim,
University of California, Santa Barbara

Computational Bodybuilding: Anatomically Based Modeling of Human Bodies

Shunsuke Saito
Waseda University, University of Pennsylvania

Zi-Ye Zhou
Ladislav Kavan
University of Pennsylvania

Biomechanical Simulation and Control of Hands and Tendinous Systems

Prashant Sachdeva
The University of British Columbia

Shinjiro Sueda
California Polytechnic State University

Susanne Bradley
Mikhail Fain
Dinesh Pai
The University of British Columbia

Realistic Biomechanical Simulation and Control of Human Swimming

Weiguang Si
Light Co

Sung-Hee Lee
Korea Advanced Institute of Science and Technology

Eftychios Sifakis
University of Wisconsin-Madison

Demetri Terzopoulos
University of California, Los Angeles

GRIDiron: An Interactive Authoring and Cognitive Training Foundation for Reconstructive Plastic Surgery Procedures

Nathan Mitchell
University of Wisconsin-Madison

Court Cutting
New York University

Eftychios Sifakis
University of Wisconsin-Madison

Face Reality

Monday, 10 August, 3:45-5:35 pm
Session Chair: Xin Tong,
Microsoft Research Asia

Detailed Spatio-Temporal Reconstruction of Eyelids

Amit Bermano
Disney Research Zürich, ETH Zürich

Thabo Beeler
Disney Research Zürich

Yeara Kozlov
Disney Research Zürich, ETH Zürich

Derek Bradely
Disney Research Zürich

Bernd Bickel
Institute of Science and Technology Austria, Disney Research Zürich

Markus Gross
Disney Research Zürich, ETH Zürich

Dynamic 3D Avatar Creation From Hand-Held Video Input

Alexandru Ichim
Sofien Bouaziz
Mark Pauly
École Polytechnique Fédérale de Lausanne

Driving High-Resolution Facial Scans With Video Performance Capture

Graham Fyffe
Andrew Jones
Oleg Alexander
USC Institute for Creative Technologies

Ryosuke Ichikari
National Institute of Advanced Industrial Science and Technology

Paul Debevec
USC Institute for Creative Technologies

Real-Time High-Fidelity Facial Performance Capture

Chen Cao
Zhejiang University, Disney Research Zürich

Derek Bradley
Disney Research Zürich

Kun Zhou
Zhejiang University

Thabo Beeler
Disney Research Zürich

Facial-Performance-Sensing Head-Mounted Display

Hao Li
University of Southern California

Laura Trutoiu
Oculus VR, LLC

Kyle Olszewski
Lingyu Wei
University of Southern California

Tristan Trutna
Oculus VR, LLC

Pei-Lun Hsieh
University of Southern California

Aaron Nicholls
Oculus VR, LLC

Chongyang Ma
University of Southern California

Rendering Complex Appearance

Monday, 10 August, 3:45-5:35 pm
Session Chair: Wenzel Jakob,
ETH Zurich

Completed Luminaries: Illumination and Appearance Rendering

Edgar Velázquez-Armendáriz
Zhao Dong
Autodesk Inc.

Bruce Walter
Donald P. Greenberg
Cornell University

Directional Dipole Model for Subsurface Scatting

Jeppe Frisvad
Danmarks Tekniske Universitet

Toshiya Hachisuka
The University of Tokyo

Kim Kjeldsen
Alexandra Instituttet

Hyperspectral Modeling of Skin Appearance

T. Francis Chen
Gladimir V. Guimaraes Baranoski
Bradley W. Kimmel
Erik Miranda
University of Waterloo

The SGGX Microflake Distribution

Eric Heitz
Karlsruhe Institute of Technology, NVIDIA Research

Jonathan Dupuy
Université de Montréal, Université de Lyon 1

Cyril Crassin
NVIDIA Research

Carsten Dachsbacher
Karlsruhe Institute of Technology

Multi-Scale Modeling and Rendering of Granular Materials

Johannes Meng
Karlsruher Institut für Technologie, Disney Research Zürich

Marios Papas
Disney Research Zürich, ETH Zürich

Ralf Habel
Disney Research Zürich

Carsten Dachsbacher
Karlsruher Institut für Technologie

Steve Marschner
Cornell University

Markus Gross
Disney Research Zürich, ETH Zürich

Wojciech Jarosz
Disney Research Zürich, Dartmouth College

Wave-Particle Fluidity

Monday, 10 August, 3:45-5:35 pm
Session Chair: Changxi Zheng,
Columbia University

Power Particles: An Incompressible Fluid Solver Based on Power Diagrams

Fernando de Goes
California Institute of Technology

Corentin Wallez
Ecole Polytechnique

Jin Huang
Zhejiang University

Dmitry Pavlov
Imperial College London

Mathieu Desbrun
California Institute of Technology

The Affine Particle-In-Cell Method

Chenfanfu Jiang
Craig Schroeder
University of California, Los Angeles

Andrew Selle
Walt Disney Animation Studios

Joseph Teran
Walt Disney Animation Studios, University of California, Los Angeles

Alexey Stomakhin
Walt Disney Animation Studios

Restoring the Missing Vorticity in Advection-Projection Fluid Solvers

Xinxin Zhang
The University of British Columbia

Robert Bridson
Autodesk, Inc.

Chen Greif
The University of British Columbia

A Stream Function Solver for Liquid Simulations

Ryoichi Ando
Institute of Science and Technology Austria

Nils Thürey
Technische Universität München

Chris Wojtan
Institute of Science and Technology Austria

Water-Wave Animation via Wavefront Parameter Interpolation

Chris Wojtan
Stefan Jeschke
Institute of Science and Technology Austria

Tuesday, 11 August

Simsquishal Geometry

Tuesday, 11 August, 9-10:30 am
Session Chair: Keenan Crane,
Columbia University

Dihedral Angle-Based Maps of Tetrahedral Meshes

Gilles-Philippe Paillé
Université de Montréal

Nicolas Ray
INRIA

Pierre Poulin
Université de Montréal

Alla Sheffer
The University of British Columbia

Bruno Lévy
INRIA

Conformal Mesh Deformations With Möbius Transformations

Amir Vaxman
Christian Müller
Technische Universität Wien

Ofir Weber
Bar Ilan University

Close-to-Conformal Deformation of Volumes

Albert Chern
California Institute of Technology

Ulrich Pinkall
Technische Universität Berlin

Peter Schröder
California Institute of Technology

Linear Subspace Design for Real-Time Shape Deformation

Yu Wang
University of Pennsylvania

Alec Jacobson
Columbia University, ETH Zürich

Jernej Barbič
University of Southern California

Ladislav Kavan
University of Pennsylvania

VR, Display & Interaction

Tuesday, 11 August, 9-10:30 am
Session Chair: Wolfgang Heidrich,
King Abdullah University of Science and Technology

Augmented Airbrush for Computer-Aided Painting

Amit Zoran
Independent Artist, Hebrew University of Jerusalem

Roy Shilkrot
Pattie Maes
Joseph Paradiso
MIT Media Lab

eyeSelfie: Self-Directed Eye Alignment Using Reciprocal Eye-Box Imaging

Tristan Swedish
Karin Roesch
Ik Hyun Lee
Krishna Rastogi
Shoshana Bernstein
Ramesh Raskar
Massachusetts Institute of Technology

Optimal Presentation of Imagery With Focus Cues on Multi-Plane Displays

Rahul Narain
University of Minnesota

Rachel A. Albert
M. Abdullah Bulbul
University of California, Berkeley

Gregory J. Ward
Dolby Laboratories, Inc.

Martin S. Banks
University of California, Berkeley

James F. O'Brien
University of California, Berkeley

The Light-Field Stereoscope: Immersive Computer Graphics via Factored Near-Eye Light-Field Displays With Focus Cues

Fu-Chung Huang
Kevin Chen
Gordon Wetzstein
Stanford University

Let's do the Time Warp

Tuesday, 11 August, 10:45 am-12:15 pm
Session Chair: Oliver Wang,
Disney Research Zürich

Decomposing Time-Lapse Paintings Into Layers

Jianchao Tan
George Mason University

Marek Dvoroznak
Daniel Sykora
Czech Technical University in Prague

Yotam Gingold
George Mason University

RingIT: Ring-Ordering Casual Photos of Temporal Events

Hadar Averbuch-Elor
Daniel Cohen-Or
Tel Aviv University

Time-Lapse Mining From Internet Photos

Ricardo Martin Brualla
University of Washington

David Gallup
Google Inc.

Steve Seitz
Google Inc., University of Washington

Real-Time Hyperlapse Creation via Optimal Frame Selection

Neel Joshi
Wolf Kienzle
Mike Toelle
Matt Uyttendaele
Michael Cohen
Microsoft Research

Meshing Around

Tuesday, 11 August, 10:45 am – 12:15 pm
Session Chair: Leif Kobbett,
RWTH Aachen University

Isotopic Approximation Within a Tolerance Volume

Manish Mandad
David Cohen-Steiner
Pierre Alliez
INRIA Sophia Antipolis

Data-Driven Interactive Quadrangulation

Giorgio Marcias
Istituto di Scienza e Tecnologie dell'Informazione

Kenshi Takayama
National Institute of Informatics

Nico Pietroni
Istituto di Scienza e Tecnologie dell'Informazione

Daniele Panozzo
Olga Sorkine-Hornung
ETH Zürich

Enrico Puppo
Università degli Studi di Genova

Paolo Cignoni
Istituto di Scienza e Tecnologie dell'Informazione

Spectral Quadrangulation With Feature-Curve Alignment and Element-Size Control

Jin Huang
Zhejiang University

Ruotian Ling
The University of Hong Kong

Bert Juttler
Johannes Kepler Universität Linz

Feng Sun
The University of Hong Kong

Hujun Bao
Zhejiang University

Wenping Wang
The University of Hong Kong

Convolutional Wasserstein Distances: Efficient Optimal Transportation on Geometric Domains

Justin Solomon
Stanford University

Fernando de Goes
Pixar Animation Studios

Gabriel Peyré
Université Paris-Dauphine

Marco Cuturi
Kyoto University

Adrian Butscher
Autodesk, Inc.

Andy Nguyen
Tao Du
Leonidas Guibas
Stanford University

Video Processing

Tuesday, 11 August, 2-3:30 pm
Session Chair: Floraine Berthouzoz,
Adobe Systems, Inc.

Sampling Based Scene-Space Video Processing

Felix Klose
Disney Research Zürich, TU Braunschweig

Oliver Wang
Jean-Charles Bazin
Disney Research Zürich

Marcus Magnor
Technische Universität Braunschweig

Alexander Sorkine-Hornung
Disney Research Zürich

Gaze-Driven Video Re-Editing

Eakta Jain
University of Florida

Yaser Sheikh
Carnegie Mellon University

Ariel Shamir
Interdisciplinary Center Herzliya

Jessica Hodgins
Carnegie Mellon University, Disney Research

AudeoSynth: Music-Driven Video Montage

Zicheng Liao
Zhejiang University

Yizhou Yu
The University of Hong Kong

Bingchen Gong
Lechao Cheng
Zhejiang University

High-Quality Streamable Free-Viewpoint Video

Alvaro Collet
Ming Chuang
Pat Sweeney
Don Gillett
Dennis Evseev
David Calabrese
Hugues Hoppe
Steve Sullivan
Microsoft Corporation

Parameterization & Mapping

Tuesday, 11 August, 2-3:30 pm
Session Chair: Mirela Ben Chen,
Technion – Israel Institute of Technology

Bijective Parameterization With Free Boundaries

Jason Smith
Scott Schaefer
Texas A&M University

Computing Locally Injective Mappings by Advanced MIPS

Xiao-ming Fu
University of Science and Technology of China

Yang Liu
Baining Guo
Microsoft Research Asia

Seamless Surface Mappings

Noam Aigerman
Roi Poranne
Yaron Lipman
The Weizmann Institute of Science

Bounded-Distortion Harmonic Mappings in the Plane

Renjie Chen
University of North Carolina at Chapel Hill

Ofir Weber
Bar Ilan University

Deform Me a Solid

Tuesday, 11 August, 2-3:30 pm
Session Chair: Ladislav Kavan,
University of Pennsylvania

Interactive Material Design Using Model Reduction

Hongyi Xu
Yijing Li
Yong Chen
Jernej Barbič
University of Southern California

Data-Driven Finite Elements for Geometry and Material Design

Desai Chen
Massachusetts Institute of Technology

David Levin
Massachusetts Institute of Technology, Disney Research

Shinjiro Sueda
California Polytechnic State University, Disney Research, Massachusetts Institute of Technology

Wojciech Matusik
Massachusetts Institute of Technology

Nonlinear Material Design Using Principal Stretches

Hongyi Xu
University of Southern California

Fun Shing Sin
University of Southern California, Activision Blizzard, Inc.

Yufeng Zhu
The University of British Columbia, University of Southern California

Jernej Barbič
University of Southern California

Subspace Condensation: Full Space Adaptivity for Subspace Deformations

Yun Teng
University of California, Santa Barbara, Pixar Animation Studios

Mark Meyer
Tony DeRose
Pixar Animation Studios

Theodore Kim
University of California, Santa Barbara

Image Processing

Tuesday, 11 August, 3:45-5:35 pm
Session Chair: Steve Lin,
Microsoft Research Asia

Perceptually Based Downscaling of Images

Cengiz Oztireli
Markus Gross
ETH Zürich

Dehazing Using Color Lines

Raanan Fattal
Hebrew University of Jerusalem

An L1 Image Transform for Edge-Preserving Smoothing and Scene-Level Intrinsic Decomposition

Sai Bi
Xiaoguang Han
Yizhou Yu
The University of Hong Kong

Learning to Remove Soft Shadows

Maciej Gryka
University College London

Michael Terry
University of Waterloo

Gabriel J. Brostow
University College London

A Computational Approach for Obstruction-Free Photography

Tianfan Xue
Microsoft Corporation, Massachusetts Institute of Technology

Michael Rubinstein
Liu Ce
Google Inc.

William Freeman
Massachusetts Institute of Technology

Taking Control

Tuesday, 11 August, 3:45-5:35 pm
Session Chair: Jehee Lee,
Seoul National University

Hybrid Skeletal-Surface Motion Graphs for Character Animation From 4D Performance Capture

Peng Huang
Margara Tejera
John Collomosse
Adrian Hilton
University of Surrey

Iterative Training of Dynamic Skills Inspired by Human Coaching Techniques

Sehoon Ha
C. Karen Liu
Georgia Institute of Technology

Dynamic Terrain Traversal Skills Using Reinforcement Learning

Xue Bin Peng
Glen Berseth
Michiel van de Panne
The University of British Columbia

Online Control of Simulated Humanoids Using Particle Belief Propagation

Perttu Hämäläinen
Joose Rajamäki
Aalto University

C. Karen Liu
Georgia Institute of Technology

Intuitive and Efficient Camera Control With the Toric Space

Christophe Lino
IRISA/INRIA Rennes Bretagne Atlantique

Marc Christie
University of Rennes1/IRISA

Shape Analysis

Tuesday, 11 August, 3:45-5:35 pm
Session Chair: Vladimir Kim,
Stanford University

Interaction Context (ICON): Towards a Geometric Functionality Descriptor

Ruizhen Hu
Shenzhen Institute of Advanced Technology, Zhejiang University, Simon Fraser University

Chenyang Zhu
Simon Fraser University

Oliver van Kaick
Carleton University

Ligang Liu
University of Science and Technology of China

Ariel Shamir
Interdisciplinary Center Herzliya

Hao (Richard) Zhang
Simon Fraser University

Elements of Style: Learning Perceptual Shape Style Similarity

Zhaoliang Lun
Evangelos Kalogerakis
University of Massachusetts Amherst

Alla Sheffer
The University of British Columbia

Style Compatibility For 3D Furniture Models

Tianqiang Liu
Princeton University

Aaron Hertzmann
Wilmot Li
Adobe Systems Incorporated

Thomas Funkhouser
Princeton University

Semantic Shape Editing Using Deformation Handles

Mehmet Ersin Yumer
Carnegie Mellon University

Siddhartha Chaudhuri
Cornell University

Jessica Hodgins
Levent Burak Kara
Carnegie Mellon University

Single-View Reconstruction via Joint Analysis of Image and Shape Collections

Qi-xing Huang
Hai Wang
Toyota Technological Institute at Chicago

Vladlen Koltun
Intel Labs

Wednesday, 12 August

Fabricating Fabulous Forms

Wednesday, 12 August, 9-10:30 am
Session Chair: Bernhard Thomaszewski,
Disney Research Zürich

Architecture-Scale Human-Assisted Additive Manufacturing

Hironori Yoshida
Yosuke Takami
Takeo Igarashi
Yusuke Obit
Jun Sato
Mika Araki
Masaaki Miki
Kosuke Nagata
The University of Tokyo

Kazuhide Sakai
Syunsuke Igarashi
Shimizu Corporation

Parametric Self-Supporting Surfaces via Direct Computation of Airy Stress Functions

Masaaki Miki
Takeo Igarashi
The University of Tokyo

Philippe Block
ETH Zürich

Foldabilizing Furniture

Honghua Li
Simon Fraser University, National University of Defense Technology

Ruizhen Hu
Zhejiang University, Shenzhen Institute of
Advanced Technology, Simon Fraser University

Ibraheem Alhashim
Hao Zhang
Simon Fraser University

Computational Interlocking Furniture Assembly

Chi-Wing Fu
Nanyang Technological University

Peng Song
University of Science and Technology of China

Xiaoqi Yan
Lee Wei Yang
Pradeep Kumar Jayaraman
Nanyang Technological University

Daniel Cohen-Or
Tel Aviv University

Transfer & Capture

Wednesday, 12 August, 9-10:30 am
Session Chair: Aseem Agarwala,
Adobe Systems, Inc.

LazyFluids: Appearance Transfer for Fluid Animations

Ondřej Jamriška
Jakub Fišer
Czech Technical University in Prague

Paul Asente
Jingwan Lu
Eli Shechtman
Adobe Research

Daniel Sýkora
Czech Technical University in Prague

Fluid-Volume Modeling From Sparse Multi-View Images by Appearance Transfer

Makoto Okabe
The University of Electro-Communications, JST CREST

Yoshinori Dobashi
Hokkaido University, JST CREST

Ken Anjyo
OLM Digital, Inc., JST CREST

Rikio Onai
The University of Electro-Communications

Garment Replacement in Monocular Video Sequences

Lorenz Rogge
Gesellschaft für Optische Messtechnik

Felix Klose
Technische Universitat Braunschweig

Martin Eisemann
Fachhochschule Köln

Marcus A. Magnor
Technische Universitat Braunschweig

Deformation Capture and Modeling of Soft Objects

Bin Wang
Shenzhen Institute of Advanced Technology, National University of Singapore

Longhua Wu
Shenzhen Institute of Advanced Technology

Kangkang Yin
National University of Singapore

Uri Ascher
Libin Liu
The University of British Columbia

Hui Huang
Shenzhen Institute of Advanced Technology

Geometry Zoo

Wednesday, 12 August, 9-10:30 am
Session Chair: Marc Alexa,
TU Berlin

Zoomorphic Design

Noah Duncan
University of California, Los Angeles

Lap-Fai (Craig) Yu
University of Massachusetts Boston

Sai-Kit Yeung
Singapore University of Technology and Design

Demetri Terzopoulos
University of California, Los Angeles

Shading-Based Refinement on Volumetric Signed-Distance Functions

Michael Zollhöfer
Friedrich-Alexander-Universität Erlangen-Nürnberg

Angela Dai
Stanford University

Matthias Innmann
Friedrich-Alexander-Universität Erlangen-Nürnberg

Chenglei Wu
ETH Zürich

Marc Stamminger
Friedrich-Alexander-Universität Erlangen-Nürnberg

Christian Theobalt
Max-Planck-Institut für Informatik

Matthias Nießner
Stanford University

Smoothed Quadratic Energies on Meshes

Janick Martinez Esturo
Microsoft Corporation

Christian Rossi
Holger Theisel
Otto-von-Guericke-Universität Magdeburg

Real-Time Nonlinear Shape Interpolation

Christoph von Tycowicz
Konrad-Zuse-Zentrum für Informationstechnik Berlin

Klaus Hildebrandt
Max-Planck-Institut für Informatik

Image Similarity & Search

Wednesday, 12 August, 10:45 am-12:15 pm
Session Chair: Kayvon Fatahalian,
Carnegie Mellon University

PatchTable: Efficient Patch Queries for Large Datasets and Applications

Connelly Barnes
University of Virginia

Fang-Lue Zhang
Tsinghua University

Liming Lou
University of Virginia, Shandong University

Xian Wu
Shi-Min Hu
Tsinghua University

Synthesis of Complex Image Appearance From Limited Exemplars

Olga Diamanti
ETH Zürich

Connelly Barnes
University of Virginia

Eli Shechtman
Silvain Paris
Adobe Research

Olga Sorkine-Hornung
ETH Zürich

Learning Visual Similarity for Product Design With Convolutional Neural Networks

Sean Bell
Kavita Bala
Cornell University

ImageSpirit: Verbal Guided Image Parsing

Ming-Ming Cheng
Nankai University

Shuai Zheng
University of Oxford

Wen-Yan Lin
Advanced Digital Sciences Center, Singapore

Vibhav Vineet
University of Oxford

Paul Sturgess
Nigel Crook
Oxford Brookes University

Philip Torr
University of Oxford

Niloy Mitra
University College London

Fabrication & Function

Wednesday, 12 August, 10:45 am-12:15 pm
Session Chair: Bernd Bickel, *IST Austria*

LinkEdit: Interactive Linkage Editing Using Symbolic Kinematics

Moritz Bächer
Disney Research Zürich

Stelian Coros
Disney Research Zürich, Carnegie Mellon University

Bernhard Thomaszewski
Disney Research Zürich

Fab Forms: Customizable Objects for Fabrication With Validity and Geometry Caching

Maria Shugrina
Massachusetts Institute of Technology

Ariel Shamir
Interdisciplinary Center Herzliya

Wojciech Matusik
Massachusetts Institute of Technology

Computational Design of Twisty Joints and Puzzles

Timothy Sun
Changxi Zheng
Columbia University

Reduced-Order Shape Optimization Using Offset Surfaces

Przemyslaw Musialski
Thomas Auzinger
Michael Birsak
Michael Wimmer
Technische Universität Wien

Leif Kobbelt
Rheinisch-Westfälische Technische Hochschule Aachen

Reconstruction & Analysis

Wednesday, 12 August, 10:45 am-12:15 pm
Session Chair: Hao Li, *University of Southern California*

RAPter: Rebuilding Man-Made Scenes With Regular Arrangements of Planes

Aron Monszpart
University College London

Nicolas Mellado
Centre national de la recherche scientifique, University College London, Université Paul Sabatier

Gabriel Brostow
Niloy J. Mitra
University College London

LOD Generation for Urban Scenes

Florent Lafarge
INRIA

Yannick Verdie
EPFL

Pierre Alliez
INRIA

Coupled Segmentation and Similarity Detection for Architectural Models

Ilke Demir
Daniel Aliaga
Bedrich Benes
Purdue University

Shape Segmentation of Incomplete Shapes

Oliver van Kaick
Carleton University

Noa Fish
Yanir Kleiman
Shmuel Asafi
Daniel Cohen-Or
Tel Aviv University

Procedural Modeling

Wednesday, 12 August, 2-3:30 pm
Session Chair: Daniel Aliaga, *Purdue University*

Controlling Procedural Modeling Programs With Stochastically-Ordered Sequential Monte Carlo

Daniel Ritchie
Ben Mildenhall
Noah Goodman
Pat Hanrahan
Stanford University

WorldBrush: Interactive Example-Based Synthesis of Procedural Virtual Worlds

Arnaud Emilien
University Grenoble-Alpes, CNRS (LJK), INRIA, Université de Montréal

Ulysse Vimont
Marie-Paule Cani
University Grenoble-Alpes, CNRS (LJK), INRIA

Pierre Poulin
Université de Montréal

Bedrich Benes
Purdue University

Advanced Procedural Modeling of Architecture

Michael Schwarz
Pascal Müller
Environmental Systems Research Institute

Learning Shape Placements by Example

Paul Guerrero
Technische Universität Wien, King Abdullah University of Science and Technology

Stefan Jeschke
Institute of Science and Technology Austria

Michael Wimmer
Technische Universität Wien

Peter Wonka
King Abdullah University of Science and Technology

Appearance Capture

Wednesday, 12 August, 2-3:30 pm
Session Chair: Wojciech Jarosz, *Disney Research, Zurich*

Skin Microstructure Deformation With Displacement Map Convolution

Koki Nagano
Graham Fyffe
Oleg Alexander
USC Institute for Creative Technologies

Jernej Barbič
Hao Li
University of Southern California

Abhijeet Ghosh
Imperial College London

Paul Debevec
USC Institute for Creative Technologies

Two-Shot SVBRDF Capture for Stationary Materials

Miika Aittala
Aalto University

Tim Weyrich
University College London

Jaakko Lehtinen
Aalto University, NVIDIA Corporation

Image-Based Relighting Using Neural Networks

Peiran Ren
Yue Dong
Stephen Lin
Xin Tong
Baining Guo
Microsoft Research Asia

Measurement-Based Editing of Diffuse Albedo With Consistent Interreflections

Bo Dong
College of William & Mary

Yue Dong
Xin Tong
Microsoft Research Asia

Pieter Peers
College of William & Mary

Fluids, From Air to Goo

Wednesday, 12 August, 2-3:30 pm
Session Chair: Chris Wojtan,
Institute of Science and Technology Austria (IST Austria)

OmniAD: Data-Driven Omni-Directional Aerodynamics

Tobias Martin
ETH Zürich

Nobuyuki Umetani
Disney Research Zürich

Bernd Bickel
Institute of Science and Technology Austria

Robust Simulation of Sparse-Sampling Thin Features in SPH-Based Free Surface Flows

Xiaowei He
Institute of Software, Chinese Academy of Sciences

Huamin Wang
The Ohio State University

Fengjun Zhang
Houngan Wang
Institute of Software, Chinese Academy of Sciences

Guoping Wang
Peking University

Kun Zhou
Zhejiang University

An Implicit Viscosity Formulation for SPH Fluids

Andreas Peer
Markus Ihmsen
Jens Cornelis
Matthias Teschner
Universität Freiburg

Codimensional Non-Newtonian Fluids

Bo Zhu
Minjae Lee
Ed Quigley
Stanford University

Ronald Fedkiw
Stanford University, Industrial Light & Magic

Character Fashion & Style

Wednesday, 12 August, 3:45-5:35 pm
Session Chair: Aaron Hertzmann,
Adobe Research

Animating Human Dressing

Alexander Clegg
Jie Tan
Greg Turk
Karen Liu
Georgia Institute of Technology

A Perceptual Control Space for Garment Simulation

Leonid Sigal
Moshe Mahler
Spencer Diaz
Kyna McIntosh
Elizabeth Carter
Disney Research

Timothy Richards
The Walt Disney Company

Jessica Hodgins
Disney Research

Space-Time Sketching of Character Animation

Martin Guay
Rémi Ronfard
INRIA, Université de Grenoble

Michael Gleicher
University of Wisconsin

Marie-Paule Cani
Université de Grenoble, INRIA

Real-Time Style Transfer for Unlabeled Heterogeneous Human Motion

Shihong Xia
Congyi Wang
Institute of Computing Technology, Chinese Academy of Sciences

Jinxiang Chai
Texas A&M University

Jessica Hodgins
Carnegie Mellon University

Dyna: A Model of Dynamic Human Shape in Motion

Gerard Pons-Moll
Javier Romero
Naureen Mahmood
Michael Black
Max-Planck-Institut für Intelligente Systeme
Image Tricks

Sampling & Filtering

Wednesday, 12 August, 3:45-5:35 pm
Session Chair: Jaroslav Křivánek,
Charles University, Prague

Adaptive Rendering Based on Weighted Local Regression

Bochang Moon
Korea Advanced Institute of Science and Technology

Nathan Carr
Adobe Systems Incorporated

Sung-Eui Yoon
Korea Advanced Institute of Science and Technology

Adaptive Rendering With Linear Predictions

Bochang Moon
José A. Iglesias-Guitián
Disney Research Zürich

Sung-Eui Yoon
Korea Advanced Institute of Science and Technology

Kenny Mitchell
Disney Research Zürich

A Machine-Learning Approach for Filtering Monte Carlo Noise

Nima Khademi Kalantari
Steve Bako
Pradeep Sen
University of California, Santa Barbara

Gradient-Domain Path Tracing

Markus Kettunen
Aalto University

Marco Manzi
University of Bern

Miika Aittala
Aalto University

Jaakko Lehtinen
Aalto University, Massachusetts Institute of Technology

Frédo Durand
Massachusetts Institute of Technology

Matthias Zwicker
University of Bern

Variance Analysis for Monte Carlo Integration

Adrien Pilleboue
Gurprit Singh
David Coeurjolly
Université de Lyon 1

Michael Kazhdan
Johns Hopkins University

Victor Ostromoukhov
Université de Lyon 1

Sketching & Surfacing

Wednesday, 12 August, 3:45-5:35 pm
Session Chair: Etienne Vouga,
University of Texas at Austin

Single-View Hair Modeling Using A Hairstyle Database

Liwen Hu
Chongyang Ma
University of Southern California

Linjie Luo
Adobe Research

Hao Li
University of Southern California

SecondSkin: Sketch-Based Construction of Layered 3D Models

Chris De Paoli
Karan Singh
University of Toronto

BendFields: Regularized Curvature Fields From Rough Concept Sketches

Emmanuel Iarussi
INRIA

David Bommes
Rheinisch-Westfälische Technische Hochschule Aachen

Adrien Bousseau
INRIA

Flow-Aligned Surfacing of Curve Networks

Hao Pan
The University of Hong Kong

Yang Liu
Microsoft Research Asia

Alla Sheffer
Nicholas Vining
The University of British Columbia

Changjian Li
Wenping Wang
The University of Hong Kong

Topology-Constrained Surface Reconstruction From Cross-Sections

Ming Zou
Michelle Holloway
Washington University in St. Louis

Nathan Carr
Adobe Systems Incorporated

Tao Ju
Washington University in St. Louis

Thursday, 13 August

Computational Printing

Thursday, 13 August, 9-10:30 am
Session Chair: Tim Weyrich,
University College London

Beating Shapes Relying on Moiré Level Lines

Roger Hersch
École Polytechnique Fédérale de Lausanne

Sylvain Chosson
Orell Füssli Security Printing Ltd

MultiFab: A Machine-Vision-Assisted Platform for Multi-Material 3D Printing

Pitchaya Sitthi-amorn
Massachusetts Institute of Technology, Chulalongkorn University

Javier Ramos
Massachusetts Institute of Technology

Yuwang Wang
Tsinghua University

Justin Lan
Joyce Kwan
Wenshou Wang
Wojciech Matusik
Massachusetts Institute of Technology

Color Imaging and Pattern Hiding on a Metallic Substrate

Petar Pjanic
Roger Hersch
École Polytechnique Fédérale de Lausanne

Computational Hydrographic Printing

Yizhong Zhang
Chunji Yin
Zhejiang University

Changxi Zheng
Columbia University

Kun Zhou
Zhejiang University

Constraints, Collisions & Clarinets

Thursday, 13 August, 9-10:30 am
Session Chair: Robert Bridson,
University of British Columbia

Stable Constrained Dynamics

Maxime Tournier
RIKEN Brain Science Institute, INRIA, Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier

Matthieu Nesme
Laboratoire Jean Kuntzmann, INRIA

Benjamin Gilles
INRIA, Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier

François Faure
INRIA, Laboratoire Jean Kuntzmann, Université de Grenoble

Air Meshes for Robust Collision Handling

Matthias Mueller-Fischer
Nuttapong Chentanez
Tae-Yong Kim
Miles Macklin
NVIDIA Corporation

Using Nesterov's Method to Accelerate Multibody Dynamics With Friction and Contact

Hammad Mazhar
University of Wisconsin-Madison

Toby Heyn
Epic Systems Corporation

Alessandro Tasora
Università degli Studi di Parma

Dan Negrut
University of Wisconsin-Madison

Aerophones in Flatland: Interactive Wave Simulation of Wind Instruments

Andrew Allen
Nikunj Raghuvanshi
Microsoft Research

Printing Elasties

Thursday, 13 August, 10:45 am-12:15 pm
Session Chair: Nobuyuki Umetani,
Autodesk Research

Elastic Textures for Additive Fabrication

Julian Panetta
Qingnan Zhou
New York University

Luigi Malomo
Nico Pietroni
Paolo Cignoni
Istituto di Scienza e Tecnologie dell'Informazione

Denis Zorin
New York University

Microstructures to Control Elasticity in 3D Printing

Christian Schumacher
ETH Zürich, Disney Research Zürich

Bernd Bickel
Disney Research Zürich, Institute of Science and Technology Austria

Jan Rys
ETH Zürich

Steve Marschner
Cornell University

Markus Gross
Disney Research Zürich, ETH Zürich

Chiara Daraio
ETH Zürich

By-Example Synthesis of Structurally Sound Patterns

Jérémie Dumas
INRIA

An Lu
INRIA, Technische Universität München

Sylvain Lefebvre
INRIA

Jun Wu
Christian Dick
Technische Universität München

Design and Fabrication of Flexible Rod Meshes

Jesús Pérez
Universidad Rey Juan Carlos

Bernhard Thomaszewski
Disney Research Zürich

Stelian Coros
Carnegie Mellon University, Disney Research Zürich

Bernd Bickel
Institute of Science and Technology Austria, Disney Research Zürich

José A. Canabal
Universidad Rey Juan Carlos

Robert Sumner
Disney Research Zürich

Miguel Otaduy
Universidad Rey Juan Carlos

Perception & Color

Thursday, 13 August, 10:45 am-12:15 pm
Session Chair: Piotr Didyk,
Saarland University/Max Planck Institute for Computer Science

Simulating the Visual Experience of Very Bright and Very Dark Scenes

David Jacobs
Google, Inc., NVIDIA Research, Stanford University

Orazio Gallo
NVIDIA Research

Emily Cooper
Stanford University

Kari Pulli
NVIDIA Research

Marc Levoy
Google, Inc., Stanford University

A Total Variation Approach for Customizing Imagery to Improve Visual Acuity

Daniel Aliaga
Ignacio Garcia-Dorado
Purdue University

Carlos Montalto
University of Washington

Manuel M. Oliveira
Universidade Federal do Rio Grande do Sul

Feng Meng
Purdue University

Palette-Based Photo Recoloring

Huiwen Chang
Ohad Fried
Yiming Liu
Princeton University

Stephen DiVerdi
Google Inc.

Adam Finkelstein
Princeton University

Data-Driven Color Manifold

Chuong Nguyen
Max-Planck-Institut für Informatik

Tobias Ritschel
Max-Planck-Institut für Informatik, Universität des Saarlandes

Hans-Peter Seidel
Max-Planck-Institut für Informatik

Meshful Thinking

Thursday, 13 August, 10:45 am-12:15 pm
Session Chair: Daniele Panozzo,
ETH Zürich

3DFlow: Continuous Summarization of Mesh-Editing Workflows

Jonathan Denning
Taylor University

Valentina Tibaldo
Fabio Pellacini
Sapienza – Università di Roma

Practical Hex-Mesh Optimization via Edge-Cone Rectification

Marco Livesu
Alla Sheffer
Nicholas Vining
The University of British Columbia

Marco Tarini
Istituto di Scienza e Tecnologie dell'Informazione

Hexahedral Mesh Reparameterization From Aligned Base-Complex

Xifeng Gao
Zhigang Deng
Guoning Chen
University of Houston

Dyadic T-Mesh Subdivision

Denis Kovacs
New York University

Justin Bisceglio
Blue Sky Studios, New York University

Denis Zorin
New York University

Scalable Graphics

Thursday, 13 August, 2-3:30 pm
Session Chair: Elmar Eisemann,
TU Delft

Lillicon: Using Transient Widgets to Create Scale Variations of Icons

Gilbert Bernstein
Stanford University

Wilmot Li
Adobe Systems Incorporated

Vector Graphics Animation With Time-Varying Topology

Boris Dalstein
The University of British Columbia

Remi Ronfard
INRIA

Michiel van de Panne
The University of British Columbia

Accelerating Vector Graphics Rendering Using the Graphics Hardware Pipeline

Vineet Batra
Adobe Systems Inc.

Mark Kilgard
NVIDIA Corporation

Harish Kumar
Adobe Systems Inc.

Tristan Lorach
NVIDIA Corporation

Piko: A Framework for Authoring Programmable Graphics Pipelines

Anjul Patney
NVIDIA Corporation, University of California, Davis

Stanley Tzeng
NVIDIA Corporation

Kerry A. Seitz, Jr.
John D. Owens
University of California, Davis

Simulating With Surfaces

Thursday, 13 August, 2-3:30 pm
Session Chair: Andrew Selle,
Walt Disney Animation Studios

Fast Grid-Free Surface Tracking

Nuttapong Chentanez
NVIDIA Corporation, Chulalongkorn University

Matthias Müller
Miles Macklins
Tae-Yong Kim
NVIDIA Corporation

Double Bubbles Sans Toil and Trouble: Discrete Circulation-Preserving Vortex Sheets for Soap Films and Foams

Fang Da
Columbia University

Christopher Batty
University of Waterloo

Chris Wojtan
Institute of Science and Technology Austria

Eitan Grinspun
Columbia University

Simulating Rigid Body Fracture with Surface Meshes

Yufeng Zhu
The University of British Columbia

Robert Bridson
The University of British Columbia, Autodesk, Inc.

Chen Greif
The University of British Columbia

High-Resolution Brittle Fracture Simulation With Boundary Elements

David Hahn
Chris Wojtan
Institute of Science and Technology Austria

Light Fields

Thursday, 13 August, 3:45-5:35 pm
Session Chair: Gordon Wetzstein,
Stanford University

Linear Volumetric Focus for Light-Field Cameras

Donald Dansereau
Queensland University of Technology

Oscar Pizarro
Stefan B. Williams
University of Sydney

A Light Transport Framework for Lenslet Light-Field Cameras

Chia-Kai Liang
Lytro, Inc.

Ravi Ramamoorthi
University of California, San Diego

Improving Light Field Camera Sample Design With Irregularity and Aberration

Li-Yi Wei
Dragoniac, The University of Hong Kong,
Lytro, Inc.

Chia-Kai Liang
Graham Myhre
Colvin Pitts
Kurt Akeley
Lytro, Inc.

Light-Field Reconstruction Using Sparsity in the Continuous Fourier Domain

Lixin Sh
Haitham Hassanieh
Abe Davis
Dina Katabi
Frédo Durand
Massachusetts Institute of Technology

Layered Light-Field Reconstruction for Defocus Blur

Karthik Vaidyanathan
Jacob Munkberg
Petrik Clarberg
Marco Salvi
Intel Corporation

VR Village

FP F S E+ Ex #SIGGRAPH2015

Real-time immersion in tomorrow's virtual and augmented realities:

- Full-dome cinema
- Stand-up/sit-down VR and tabletop AR
- Nomadic VR (untethered head-mounted displays or AR)
- Live performances and demos in a 360-degree immersion dome

Throughout the week at SIGGRAPH 2015, attendees can explore the fascinating potential of these new formats for telling stories, engaging audiences, and powering real-world applications in health, education, design, and gaming.

A preliminary list of VR Village demonstrations. Visit s2015.siggraph.org for an updated list.

Image Credit: VR Crash Test © 2015 Ben Tan, Digital Arts Network; Stuart White, Fin Design + Effects

Full-Dome Cinema – Scientific Visualization

Neurodome

Jonathan Fisher
New York Medical College

Full-Dome Demo — Interactive VR (VR Demonstration, Sit-Down VR Station)

"refrARction" - Educational Mobile AR Game

This is an educational mobile (Android) AR game for elementary-school kids. Empowered by the Vuforia AR plugin for Unity, the puzzle game is an immersive experience with board cards and mobile devices for learning fraction calculation (mathematics) and light-reflection laws (physics).

Lei Yang
University of Pennsylvania

Nomadic (Wireless Untethered) Head-Mounted Display

Prototyping the Future

Participants enter a series of alternate worlds, where they can walk around and see each other as avatars, and interact with real physical objects, which appear to have magical powers. Sometimes they encounter creatures that are very curious about visitors from our world. The creatures are mostly friendly.

Ken Perlin
New York University

Sit-Down Head-Mounted Displays

The Grand Canyon: VR Experience

The Grand Canyon: VR Experience is a virtual reality experience that transports you to a dynamic, fully immersive, computer-generated replica of the Grand Canyon so you can experience the beauty of the Grand Canyon anytime, anywhere.

FEATURES
Dynamic Fully Interactive Rendering, Realistic Natural Environment, AI Animal Behavior

Renee Van den Bosch
Immersive Entertainment, Inc.

Lamper VR 2

Robyn Gummer
Derek Chen
Archiact Interactive Ltd.

Shape Space VR

Shape Space presents abstract virtual reality art experiences inspired by nature, technology, and transcendent visions.

Kevin Mack
Mack Art Productions

TIME-Pull of the Moon

An experimental VR and full-dome immersive film based on the 2014 collaboration of renowned Chinese artist Ai Weiwei and Navajo artist Bert Benally, who created an ephemeral land-art performance in New Mexico in June 2014.

Eric Hanson
xRez Studio

VR Crash Test

The difference in cars built 30 years apart is quite dramatic. It's not just how the cars look that's different, but there's a whole world of new technology inside today's cars to keep you safe. This experience highlights the differences by putting you in the driver's seat.

Ben Tan
Digital Arts Network

Stuart White
Fin Design + Effects

Stand-Up Head-Mounted Displays

Sisters

Sisters is an interactive haunted-house experience for virtual reality that is compatable with both IOS and Android. Users experience a creepy horror story using a Google Cardboard.

Andrew Goldstein
Robyn Gray
Michael Murdock
Otherworld Interactive

Vrideo

Vrideo, one of the leading immersive video distribution platforms for virtual reality, built a centralized, streaming, hardware-agnostic, and independent platform for immersive video. The system includes a suite of products that allow immersive video publishers to distribute their content across the web, mobile, and VR.

Alex Rosenfeld
Kuangwei Hwang
Chadwick Turner
Vrideo

Exhibitor List (as of 1 June)

FP F S E+ Ex #SIGGRAPH2015

FIRST-TIMER

Exhibition Hours

Tuesday, 11 August	**9:30 am-6 pm**
Wednesday, 12 August	**9:30 am-6 pm**
Thursday, 13 August	**9:30 am-3:30 pm**

Children under 16 are not permitted in the Exhibition. Age verification is required.

FIRST-TIMER MOBILE GAMES

FP F S E+ Ex
Exhibits Fast Forward
Monday, 10 August, 3:45-5:15 pm

A sneak peek of the products and announcements that companies plan to make during the exhibition in a fast paced, entertaining session prior to the Exhibition opening.

FIRST-TIMER

FP F S E+ Ex
Exhibitor Tech Talks

Comprehensive summaries of the latest technologies in computer graphics and interactive techniques. SIGGRAPH 2015 exhibitors demonstrate software, hardware, and systems; answer questions; and host one-on-one conversations about how their applications improve professional and technical performance.

FP F S E+ Ex
Exhibitor Tech Talk
Tuesday, 11 August, 10:30 am

High Pressure Systems: 5 Ways Cloud Rendering Will Change the VFX Industry

Presented by
Matt Provost
Avere Systems

3D Consortium
3dMD
Academy of Art University
Addison-Wesley
Advanced Micro Devices, Inc.
American Cinematographer
American Express OPEN
Animation Magazine Inc.
Anoto Creative
Avere Systems
B&H Photo, Video & Pro Audio
Blackmagic Design
BenQ America Corp.
BOXX Technologies, Inc.
Cap Digital — France
Capital One Spark Card
Carnegie Mellon Entertainment Technology Center
CGAL – The Computational Geometry Algorithms Library
Chaos Group
Colorfront
Computer Graphics World
CyberGlove Systems
DigiPen Institute of Technology
Dimensional Imaging
Disruptive Interactive
EarthOnDrive
Eizo Inc.
EnvisionTEC
Epson America Inc.
Esri
Fabric Software
Faceshift AG
Faceware Technologies
Formlabs Inc.
The Foundry Visionmongers
Fuel3D Inc.
GPL Technologies
Graphine
GreenScreen Animals
Hyve Solutions
IATSE
IdN magazine
IEEE Computer Society
Imagineer Systems Ltd.
Infinite Trading Inc.
Intel Corporation
Isotropix
JourneyEd
khurshid tv
Lightwork Design Ltd.
Luxion, Inc.
Massive Software
MAXON
Motion Analysis Corporation
MSI Computer Corp.
NGRAIN
NIM Labs
Nod Labs
Noitom Ltd.
Nolabel
NorPix Inc.
NVIDIA Corporation
OptiTrack
Otto Trading, Inc.
Panasas
PipelineFX, LLC
Pixar Animation Studios
Pluralsight
PNY Technologies
Point Grey Research, Inc.
Purple Platypus
Qualcomm Incorporated
Qumulo
Reallusion Inc.
RebusFarm GmbH
Redshift Rendering Technologies
Renderosity
Ringling College of Art and Design
SCAD
SensoMotoric Instruments, Inc.
Shapeways
Sharecg.com
Shotgun Software, Inc.
Side Effects Software
SimLab Soft
Sketchfab Inc.
Smith Micro Software
Sohonet Limited
SpeedTree
Stereolabs
Stratasys 3D Printers & Production Systems
Supermicro
Synertial MotionWerx
Taylor Francis/CRC/Focal Press
TechViz
Thinkbox Software Inc.
Unigine
United Scenic Artists, Local USA 829 IATSE
Unity Technologies
The University of the Arts
uSens Inc.
VanArts
Vancouver Film School
Vicon
Visual Computing Center at KAUST
Wacom Technology
Web3D Consortium
Wolfram Research, Inc.
XIM Industry Inc. (USA)
Xsens Technologies B.V.

Job Fair Participants (as of 29 May)

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The Job Fair is absolutely the best place at SIGGRAPH 2015 for employers to meet with thousands of job seekers from around the globe!

Once again, Job Fair Exhibitors will be posting their jobs on the CreativeHeads.net and ACM SIGGRAPH job boards one month prior to the conference. This allows SIGGRAPH 2015 attendees to connect with employers before the conference, during the conference via the Job Fair, and after the conference via the CreativeHeads.net job board and candidate profiling system.

CreativeHeads.net provides the most comprehensive recruitment software solution for the VFX, animation, video game, TV, film, and 3D technology and software tools industries, for employers searching for talent or job seekers looking to secure the “right” job.

Animal Logic
Sydney, New South Wales Australia

Apple, Inc.
Cupertino, California USA

Blizzard Entertainment
Irvine, California USA

CG Spectrum - Online Film & Games School
Vancouver, British Columbia Canada

CreativeHeads.net
Manhattan Beach, California USA

Double Negative Visual Effects
London, United Kingdom

Esri
Redlands, California USA

Framestore CFC
London, United Kingdom

Method Studios
Santa Monica, California USA

Sony Pictures Imageworks
Culver City, California, USA

Starfish Creative
Los Angeles, California USA

ToonBox Entertainment
Toronto, Ontario Canada

Topalsson GmbH & Co. KG
Munich, Germany

New for SIGGRAPH 2015: FULL CONFERENCE PLATINUM

SIGGRAPH 2015 offers a comprehensive registration package to enhance your conference experience and maximize your investment. Limited Full Conference Platinum registrations include:

- Early access to popular sessions including Technical Papers Fast Forward, Keynote Session, and Computer Animation Festival Electronic Theater.
- Early entrance to the Reception.
- One extra drink ticket for Reception.
- Full Conference USB. (Included in the welcome packages for Full Conference Platinum registrations completed by 10 July.)
- Raffle for a complimentary Full Conference registration to SIGGRAPH 2016. Registration is nontransferable.
- One free drink ticket for Appy Hour.
- Private registration counter and concierge line.
- Private viewing of the Exhibition.
- SIGGRAPH 2015 welcome packet.

Airport Shuttle Bus Discounts

SIGGRAPH 2015 has partnered with Super Shuttle to offer transportation to and from Los Angeles International Airport (LAX).

Shared Ride Van:
$14 per passenger (up to 9 passengers)
Town Car Service:
$63 per sedan (up to 4 passengers)

These discounted rates are valid from five days before the conference to five days after it closes.

If you book your shuttle reservation through the SIGGRAPH 2015 web site, you earn miles on American Airlines, United Airlines, and Delta.

Book by phone at
800.258.3826 (toll free)
or +1.310.222.5500, extension 4.

To receive the discount, you must mention the SIGGRAPH 2015 discount code: PK7AU. Or you can book directly on the Super Shuttle website.

Bookstore

BreakPoint Books offers the latest and greatest books on computer animation, graphic design, gaming, 3D graphics, modeling, and digital artistry. The bookstore features recent books by SIGGRAPH 2015 speakers and award winners. To suggest books that should be available in the bookstore, contact:

Breakpoint Books
hemsath@msn.com

Camera and Recording Policies

No cameras or recording devices are permitted at SIGGRAPH 2015. Abuse of this policy will result in the loss of the individual's registration credentials. SIGGRAPH 2015 employs a professional photographer and reserves the right to use all images that this photographer takes during the conference for publication and promotion of future ACM SIGGRAPH events.

Children at the Conference

Please be aware that parts of the Conference may contain adult content, graphic images, or violence.

There are no age-based restrictions at the Conference with the exception of the SIGGRAPH Exhibition. Registered attendees under 16 years of age may enter the SIGGRAPH Exhibition Halls only under one of the following circumstances: as "wearable" infants/toddlers (those being carried in a sling or backpack carrier) or as children that are part of an official SIGGRAPH guided tour event.

Registered attendees that appear younger than 16 years of age will be asked to provide proof of age at admittance into the Exhibition Halls.

Hotel Reservations

Visit the SIGGRAPH 2015 website to access the easy-to-use online hotel reservation system, which includes complete information on housing policies, procedures, and rates:

s2015.siggraph.org

Or contact:
onPeak
SIGGRAPH 2015 Housing Provider
+1.855.416.6073 (US and Canada)
+1.312.527.7300 (International)

SIGGRAPH 2015 has negotiated discount rates for hotels in Los Angeles. These discounts are available to SIGGRAPH 2015 attendees only. Please make your hotel reservation by 13 July 2015. Reservations made after 13 July are based on availability only and rates may increase.

SIGGRAPH 2015 hotel rates can only be booked through onPeak, SIGGRAPH 2015's Housing Partner. If you are contacted by any other companies to make hotel reservations for SIGGRAPH 2015, be aware they may not be reputable companies or endorsed by SIGGRAPH 2015.

Los Angeles Convention Center

1201 South Figueroa Street
Los Angeles, CA 90015

Accessibility

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

+1.312.673.5868

Business Center

A full-service business center is located in the Concourse Hallway area of the convention center. Attendees can make black-and-white copies and use the center's computers to check email and print documents along with a variety of other services.

Charging Stations

Charging stations will be available at the Los Angeles Convention Center.

Food Services

Restaurants and food-service concessions are available throughout the convention center. In addition, several food trucks serve a variety of food and beverage on the concourse plaza.

Internet Access

Free wireless access will be available in all conference locations within the Los Angeles Convention Center [except in the Exhibit Halls].

Parking

SIGGRAPH 2015 attendees can park at the following locations:

Los Angeles Convention Center Parking
1201 S. Figueroa Street
+1.213.741.1151, ext 5850

L.A. Live Parking Lots
+1.213.763.5483

Staples Center Parking Lots
+1.213.742.7100

Additional parking information:
District Parking Office
+1.213.742.PARK (7275)

Luggage and Coat Check

Luggage and coat-check services ($5 per piece) are available in the Business Center of the Los Angeles Convention Center from Sunday, 9 August through Thursday, 13 August.

Special Policies

Lost badges cannot be replaced. If you lose your badge, you must purchase a new registration. Technical materials included with your registration must be picked up at the SIGGRAPH 2015 Merchandise Pickup Center. Lost merchandise vouchers will not be replaced.

Reception Access

To be admitted to the Reception, you must have a ticket. Your badge does not provide access.

Registration Fee Information

Conference Registration Categories

FP Full Conference Platinum
F Full Conference
S Select Conference
E+ Exhibits Plus

See page 57 for Full Conference Platinum Benefits.

Lost badges cannot be replaced. If you lose your badge, you must purchase a new registration.

One-Day Registration

One-Day registration includes one day admission to all conference programs and events and the Exhibition (Tuesday-Thursday). Does not include the SIGGRAPH 2015 Reception ticket.

*Reception Ticket

To be admitted to the Reception, you must have a ticket. Your registration badge does not provide access.

Refund and Cancellation Deadlines

Cancellation requests for refunds must be made in writing and received on or before Friday, 17 July. No refunds will be issued after this date. There is a refund processing fee of $US75.

X Included in registration
O Included if one-day badge is purchased for that event day

	FP Full Conference Platinum	**F** Full Conference	Full Conference One-Day	**S** Select Conference	Seclect Conference One-Day	**E+** Exhibits Plus
Member						
On or before 19 June	$1,095	$945	$400	$325	$155	$50
On or before 17 July	$1,270	$1,120	$450	$355	$180	$50
After 17 July and at SIGGRAPH 2015	$1,370	$1,220	$500	$380	$205	$75
Non Member						
On or before 19 June	$1,295	$1,145	$450	$380	$180	$50
On or before 17 July	$1,470	$1,320	$500	$405	$205	$50
After 17 July and at SIGGRAPH 2015	$1,595	$1,445	$550	$430	$230	$75
Student						
On or before 19 June	$545	$395	$175	$250	$95	$50
On or before 17 July	$595	$445	$200	$275	$125	$50
After 17 July and at SIGGRAPH 2015	$645	$495	$225	$300	$145	$75
Appy Hour (Wednesday)	X	X	O	X	O	X
Art Gallery & Art Gallery Talks	X	X	X	X	X	X
Awards Presentation (Monday)	X	X	O	X	O	
Birds of a Feather	X	X	X	X	X	
Computer Animation Festival - Daytime Select	X	X	X	O	X	
Computer Animation Festival - Electronic Theater (Monday and Wednesday)	X	X	O	X	O	
Courses	X	X	X			
Dailies (Tuesday)	X	X	O	X	O	
Emerging Technologies & Emerging Technologies Talks	X	X	X	X	X	X
Exhibition (Tuesday - Thursday)	X	X	X	X	X	X
Exhibitor Tech Talks	X	X	X	X	X	X
Fast Forward - Exhibits (Monday)	X	X	O	X	O	
Fast Forward - Technical Papers (Sunday)	X	X	O	X	O	
International Resources	X	X	X	X	X	X
Job Fair (Tuesday - Thursday)	X	X	X	X	X	X
Keynote Session (Monday)	X	X	O	X	O	
Making @ SIGGRAPH 2015	X	X	X	X	X	X
Panels	X	X	X			
Papers - Art (Tuesday)	X	X	O	X	O	
Papers - Technical	X	X	X			
Posters and Poster Sessions	X	X	X	X	X	X
Production Sessions	X	X	X	X	X	
Reception*	X	X				
Real-Time Live! (Tuesday)	X	X	O	X	O	
Studio & Studio Course and Talks	X	X	X	X	X	X
Talks	X	X	X			
VR Village	X	X	X	X	X	X

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Amit Zoran
Hebrew University of Jerusalem

Art Papers Chair
Victoria Szabo
Duke University

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Freeman Audio Visual Solutions

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Blue Sky Studios

Joe Takai

Computer Animation Festival Production Sessions Chair
Roy Anthony
Christie Digital Systems

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Ed Lantz
Vortex Immersion Media

Denise Quesnel
S3D Centre at Emily Carr University

Web Programming
The OPAL Group

During the conference, ACM SIGGRAPH presents additional events of interest to SIGGRAPH 2015 attendees:

ACM SIGGRAPH Digital Arts Community

Throughout the Conference

Video Screens With Online Exhibitions of the ACM SIGGRAPH Digital Arts Community Enhanced Vision - Digital Video: The first online video exhibition presented by the ACM SIGGRAPH Digital Arts Community, this exhibition surveys a wide variety of ways video artists currently explore socially important issues using digital methods to enhance their practice.

Altered Books: Digital Interventions celebrates the book as an object that can carry experience, represent language, tell a narrative, convey culture, or archive memory in the context of contemporary arts. It's a showcase of inventive digital interventions that yield screen-based still imagery using the legacy and symbolism of books, scrolls, manuscripts, and/or clay tablets as a point of departure.

IEEE TVCG Special Session on Visualization

Sunday, 9 August, 9-10:30 am
Session Chair: Charles Hansen,
University of Utah

ConTour: Data-Driven Exploration of Multi-Relational Datasets for Drug Discovery

Christian Partl
Technische Universität Graz

Alexander Le
Harvard University

Marc Streit
Johannes Kepler Universität Linz

Hendrik Strobelt
Harvard University

Anne-Mai Wassermann
Novartis Institutes for BioMedical Research

Hanspeter Pfister
Harvard University

Dieter Schmalstieg
Technische Universität Graz

Learning Perceptual Kernels for Visualization Design

Cagatay Demiralp
Michael S. Bernstein
Stanford University

Jeffrey Heer
University of Washington

Trajectory-Based Flow Feature Tracking in Joint Particle/Volume Datasets

Franz Sauer
University of California, Davis

Hongfeng Yu
University of Nebraska

Kwan-Liu Ma
University of California, Davis

Visualization of Brain Microstructure Through Spherical-Harmonics Illumination of Spatio-Angular Fields

Sujal Bista
University of Maryland, College Park

Jiachen Zhuo
Rao P. Gullapalli
University of Maryland School of Medicine

Amitabh Varshney
University of Maryland, College Park

IEEE TVCG Special Session on Augmented and Virtual Reality

Sunday, 9 August, 10:45 am-12:15 pm
Session Chair: Dieter Schmalstieg,
Technische Universität Graz

Elastic Augmented Reality from a Single View

Nazim Hauchen
INRIA - Lille

Jeremie Dequidt
Université de Lille 1

Alexander Bilger
INRIA - Lille

Marie-Odile Berger
INRIA - Magrit

Stephane Cotin
INRIA - Shacra

Augmented Reality Binoculars

Taragay Oskiper
Mikhail Sizintse
Vlad Branzoi
Supun Samarasekera
Rakesh Kumar
Center for Vision Technologies, SRI International

Extended Depth-of-Field Projector by Fast Focal-Sweep Projection

Daisuke Iwai
Shoichiro Mihara
Kosuke Sato
Osaka University

WAVE: Interactive Wave-Based Sound Propagation for Virtual Environments

Ravish Mehra
Atul Rungta
Abhinav Golas
Ming Lin
Dinesh Manocha
University of North Carolina, Chapel Hill

ACM SIGGRAPH Digital Arts Community

Sunday, 9 August, 3-5 pm

A discussion of the year-round activities of the ACM SIGGRAPH Digital Arts Community, including exhibitions and the online art community. Find out how you can be part of future exhibitions and learn about current and past exhibitions. Bring announcements and ideas. Information on how you can volunteer and contribute to the evolution of a strong year-round Digital Arts Community within the international organization and promote a dialogue between visual artists and the larger ACM SIGGRAPH community.

UIST Reprise at SIGGRAPH 2015

Monday, 10 August, 3:45-5:15 pm

Sensing Techniques for Tablet+Stylus Interaction

Ken Hinckley
Michel Pahud
Hrvoje Benko
Microsoft Research

Pourang Irani
University of Manitoba

François Guimbretière
Cornell University

Marcel Gavriliu
Microsoft Research

Xiang Anthony Chen
Microsoft Research, Carnegie Mellon University

Fabrice Matulic
ETH Zürich

William Buxton
Andrew Wilson
Microsoft Research

Expert Crowdsourcing With Flash Teams

Daniela Retelny
Sébastien Robaszkiewicz
Alexandra To
Walter S. Lasecki
Jay Patel
Negar Rahmati
Tulsee Doshi
Melissa Valentine
Michael S. Bernstein
Stanford University

PrintScreen: Fabricating Highly Customizable Thin-Film Touch Displays

Simon Olberging
Michael Wessely
Jürgen Steimle
Max-Planck-Institut für Informatik

Kitty: Sketching Dynamic and Interactive Illustrations

Rubaiat Habib Kazi
Autodesk Research

Fanny Chevalier
INRIA

Tovi Grossman
George Fitzmaurice
Autodesk Research

PortraitSketch: Face-Sketching Assistance for Novices

Jun Xie
Aaron Hertzmann
Wilmot Li
Holger Winnemöller
Adobe Systems Incorporated

Enhanced Vision - Digital Video: Online Exhibition Special Session of ACM SIGGRAPH Digital Arts Community

Tuesday, 11 August, 10:30 am-12:30 pm

How are videographers utilizing digital techniques in conjunction with live footage in short documentaries, narratives, and social commentaries?

Enhanced Vision – Digital Video is a special presentation of the online video exhibition sponsored by the ACM SIGGRAPH Digital Arts Community. Guest curator Kathy Rae Huffman and several artists and exhibition committee members discuss the works and the categories that emerged from the open call, including issues surrounding environmental concerns, urban spaces, personal and public communication practices, and ironic and/or direct scrutiny of political events. Their main focus is: How can digital techniques successfully be employed to visually and metaphorically interpret and enhance socially engaged topics. Attendees are encouraged to join the discussion.

Computer Science for Elementary Schools

A no-cost, one-day workshop on how to introduce computer science at the elementary school level in a format that's fun and accessible. The workshop covers Code.org's elementary school curriculum and provides the supplies needed to teach the courses. Courses blend online, self-guided, and self-paced tutorials with "unplugged" classroom activities that require no computer. Attendees must provide their own laptops. Each attendee receives complimentary Exhibits Plus registration to SIGGRAPH 2015.

Select a date below to sign up for the workshop that's best for your SIGGRAPH 2015 schedule:

Tuesday, 11 August, 9 am-3 pm

Wednesday, 12 August, 9 am-3 pm

Thursday, 13 August, 10 am-4 pm

Co-Located Events

Presented in cooperation with ACM SIGGRAPH, these small symposia are related to important aspects of computer graphics and interactive techniques.

For registration information:
http://s2015.siggraph.org/attendees/co-located-events

HPG 2015: High-Performance Graphics

7-9 August 2015

Bunkerhill/Museum, Omni Los Angeles Hotel at California Plaza

http://www.highperformancegraphics.org/2015/

SCA 2015: ACM/Eurographics Symposium on Computer Animation

7-9 August 2015

University of Southern California Campus, Room SAL 101

http://sca2015.usc.edu

DigiPro 2015: Digital Production Symposium

8 August 2015

Los Angeles, California

http://dp2015.digiproconf.org

SUI 2015: 3rd Annual ACM Symposium on Spatial User Interaction

8-9 August 2015

Los Angeles, California

http://sui-symposium.org