



GENERATIONS / **VANCOUVER**
12-16 AUGUST
SIGGRAPH2018

PLAN YOUR EXPERIENCE

ADVANCE PROGRAM

The 45th International Conference & Exhibition on
Computer Graphics and Interactive Techniques

  Sponsored by **ACM SIGGRAPH**

s2018.siggraph.org



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CURATED CONTENT

SIGGRAPH 2018 offers several events and sessions that are individually chosen by program chairs to address specific topics in computer graphics and interactive techniques.

Curated content is not selected through the regular channels of a comprehensive jury.

INTEREST AREAS

SIGGRAPH brings together a wide variety of professionals who approach computer graphics and interactive techniques from different perspectives. Our programs and events align with five broad interest areas (listed below). Use these interest areas to help guide you through the content at SIGGRAPH 2018.

■ PRODUCTION & ANIMATION






● RESEARCH & EDUCATION

◆ ARTS & DESIGN

◆ GAMING & INTERACTIVE

▲ NEW TECHNOLOGIES

Full Conference One Day registration is available. Includes admission to conference programs and events for the day purchased and the Exhibition (Tuesday-Thursday). It does NOT include Computer Animation Festival - Electronic Theater or Reception.

Event	Saturday 11 August	Sunday 12 August	Monday 13 August	Tuesday 14 August	Wednesday 15 August	Thursday 16 August
Registration	5:00 PM-7:00 PM	8:30 AM-6:00 PM	8:30 AM-6:00 PM	8:30 AM-6:00 PM	8:30 AM-6:00 PM	8:30 AM-1:00 PM
Merchandise Pickup Center/ SIGGRAPH Store	5:00 PM-7:00 PM	8:30 AM-6:00 PM	8:30 AM-6:00 PM	8:30 AM-6:00 PM	8:30 AM-6:00 PM	8:30 AM-3:30 PM
 Opening Ceremony and Awards Presentation			9:00 AM-10:30 AM			
 ACM SIGGRAPH Award Talks			3:45 PM-5:30 PM			
 ACM Student Research Competition Final Presentation					3:45 PM-5:15 PM	
 Appy Hour					5:00 PM-7:00 PM	
 Art Gallery		1:30 PM-5:30 PM	10:00 AM-5:30 PM	10:00 AM-5:30 PM	10:00 AM-5:30 PM	10:00 AM-3:30 PM
 Art Papers				3:45 PM-5:35 PM	10:45 AM-12:35 PM	
Attendee Lounge	8:30 AM-6 PM	8:30 AM-6 PM	8:30 AM-6 PM	8:30 AM-6 PM	8:30 AM-7 PM	8:30 AM-3:30 PM
 Birds of a Feather		ALL WEEK				
 Business Symposium	8 AM-6 PM	8:30 AM-1:30 PM				
 Computer Animation Festival - Electronic Theater			6:00 PM-8:00 PM	9:00 PM-11:00 PM	8:00 PM-10:00 PM	
 Computer Animation Festival - VR Theater		2:00 PM-5:00 PM (FP ONLY)	10:00 AM-5:30 PM	10:00 AM-5:30 PM	10:00 AM-5:30 PM	10:00 AM-3:30 PM

Registration Level:

-  Full Conference Platinum
-  Full Conference
-  Select Conference
-  Exhibits Plus
-  Exhibits Only
-  Exhibitors
-  Business Symposium

Interest Areas:

-  Production & Animation
-  Research & Education
-  Arts & Design
-  Gaming & Interactive
-  New Technologies

Event	Saturday 11 August	Sunday 12 August	Monday 13 August	Tuesday 14 August	Wednesday 15 August	Thursday 16 August
 Courses		9:00 AM- 5:15 PM	9:00 AM- 5:15 PM	9:00 AM- 5:15 PM	9:00 AM- 5:15 PM	9:00 AM- 5:15 PM
 Educators Forum			9:00 AM- 5:15 PM	9:00 AM- 5:15 PM		
 Emerging Technologies		1:30 PM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 3:30 PM
 Exhibition Show Floor				9:30 AM- 6:00 PM	9:30 AM- 6:00 PM	9:30 AM- 3:30 PM
 Exhibitor Sessions				9:30 AM- 6:00 PM	9:30 AM- 6:00 PM	9:30 AM- 3:30 PM
 Experience Presentations		3:45 PM- 5:15 PM	2:00 PM- 5:15 PM	9:30 AM- 6:00 PM	9:00 AM- 10:30 AM AND 2:00 PM- 5:15 PM	9:00 AM- 12:15 PM AND 3:45 PM- 5:15 PM
 International Resource Center		9:00 AM- 6:00 PM	9:00 AM- 6:00 PM	9:00 AM- 6:00 PM	9:00 AM- 6:00 PM	9:00 AM- 3:30 PM
 Job Fair				9:30 AM- 6:00 PM	9:30 AM- 6:00 PM	
 Keynote Session			2:00 PM- 3:15 PM			
 Panels		10:45 AM- 12:15 PM AND 3:45 PM- 5:15 PM	10:45 AM- 12:15 PM	9:00 AM- 10:30 AM	2:00 PM- 5:15 PM	2:00 PM- 3:30 PM
 Posters		1:30 PM- 5:30 PM	9:30 AM- 6:00 PM	9:30 AM- 6:00 PM	9:30 AM- 6:00 PM	9:30 AM- 3:30 PM
 Poster Sessions			12:15 PM- 1:15 PM	12:15 PM- 1:15 PM	12:15 PM- 1:15 PM	
 Production Gallery		1:30 PM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 3:30 PM

Registration Level:

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-  Select Conference
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-  Exhibits Only
-  Exhibitors
-  Business Symposium

Interest Areas:

-  Production & Animation
-  Research & Education
-  Arts & Design
-  Gaming & Interactive
-  New Technologies

Event	Saturday 11 August	Sunday 12 August	Monday 13 August	Tuesday 14 August	Wednesday 15 August	Thursday 16 August
 Production Sessions			10:45 AM- 12:15 PM	10:45 AM- 12:15 PM AND 2:00 PM- 5:15 PM	10:45 AM- 12:15 PM AND 2:00 PM- 5:15 PM	10:45 AM- 12:15 PM AND 2:00 PM- 5:15 PM
 Real-Time Live!				6:00 PM- 7:45 PM		
 Reception			8:00 PM- 10:00 PM			
 SIGGRAPH Next			8:00 AM- 8:45 AM	8:00 AM- 8:45 AM	8:00 AM- 8:45 AM	
 Studio		1:30 PM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 3:30 PM
 Talks		10:45 AM- 5:15 PM	9:00 AM- 10:30 AM AND 2:00 PM- 5:15 PM	9:00 AM- 5:15 PM	9:00 AM- 12:15 PM	10:45 AM- 5:15 PM
 Technical Papers			10:45 AM- 5:35 PM	9:00 AM- 5:35 PM	9:00 AM- 5:35 PM	9:00 AM- 5:15 PM
 Technical Papers Fast Forward		6:00 PM- 8:00 PM				
 Virtual, Augmented and Mixed Reality (Immersive Pavilion)		1:30 PM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 5:30 PM	10:00 AM- 3:30 PM

1. **Business Symposium Only registration includes admission to the Computer Animation Festival - Electronic Theater for Monday only.**

2. **Computer Animation Festival - VR Theater Ticketing**

Due to limited space, the VR Theater is available to Full Conference Platinum and Full Conference attendees only. Tickets will be distributed at the Electronic Theater Exchange/VR Theater Ticket desk in Registration one day before each showing (i.e., Monday tickets are available on Sunday, Tuesday tickets on Monday, etc.).

Note: For all other attendee levels, kiosks will be set up for individual viewings of select VR Theater content throughout the Immersive Pavilion venue. (Stay tuned for updates on this offering.)

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REASONS TO ATTEND

WHY SIGGRAPH?

For more than four decades, SIGGRAPH conferences have been at the center of innovation in computer graphics and interactive techniques. Immerse yourself in a new generation of technology, trends and techniques at SIGGRAPH 2018.



LEARN

The most accomplished minds in research, design and development gather at SIGGRAPH to share their discoveries and innovations. From VFX and animation techniques to VR and game design, SIGGRAPH 2018 features five days of courses, talks, sessions and panels that will blow you away.



CREATE

Roll up your sleeves for hands-on exploration in the Studio. Demo the latest in mixed reality in the Immersive Pavilion. Go behind the VFX of the latest blockbuster game at one of our Production Sessions. Let SIGGRAPH reignite your imagination and then take your inspiration back to your workplace.



DISCOVER

Explore the latest software and hardware that's changing the workplace for CG and VFX professionals. Learn from visionaries who are pushing the limits of VR and its application to games, healthcare and daily life. Join the brightest minds pushing the boundaries of computer graphics and interactive techniques.



SHARE

What's your passion? SIGGRAPH gives you access to innovation and information that can't be found anywhere else. Whether your interests are in research, production, new technologies or somewhere in between, you're sure to find fresh ideas and technologies that will change the way you work and create.



BOND

Our community is diverse, curious, and passionate. We are artists and researchers, students and pioneers. We come from around the globe, from different disciplines, with various levels of experience and points-of-view. We gather at SIGGRAPH to create, discover and learn from one another.

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- Production & Animation
- Research & Education
- ◆ Arts & Design
- Gaming & Interactive
- ▲ New Technologies

CONFERENCE OVERVIEW

SIGGRAPH 2018 is a five-day immersion into the latest innovations in Computer Graphics, Animation, VR, Games, Digital Art, Mixed Reality and Emerging Technologies. Experience research, hands-on demos, and fearless acts of collaboration alongside fellow creatives, intellectuals and innovators.

Conference Registration Categories:

- FP Full Conference Platinum
- S Select Conference
- EB Exhibits Only
- B Business Symposium
- F Full Conference
- EP Exhibits Plus
- E Exhibitors



OPENING CEREMONY AND ACM SIGGRAPH AWARDS PRESENTATIONS



Monday, 13 August, 9-10:30 AM

ACM SIGGRAPH 2018 Award Recipients

The Computer Graphics Achievement Award

Daniel Cohen-Or
Tel Aviv University

ACM SIGGRAPH Outstanding Service Award

G. Scott Owen
Georgia State University

The Significant New Researcher Award

Gordon Wetzstein
Stanford University

The Distinguished Artist Award for Lifetime Achievement in Digital Art

Monika Fleischmann
Fraunhofer IZB Sankt Augustin

The Outstanding Doctoral Dissertation Award

Jun-Yan Zhu
Massachusetts Institute of Technology

ACM SIGGRAPH Practitioner Award

Bill Reeves
Pixar Animation Studios

ACM SIGGRAPH Academy

Induction Inaugural Members of the ACM SIGGRAPH Academy:

Past recipients of the Stephen A. Coons Award, the Distinguished Artist Award for Lifetime Achievement in Digital Art and the Computer Graphics Achievement Award.

ACM SIGGRAPH AWARD TALKS



Monday, 13 August, 3:45-5:30 PM

The Computer Graphics Achievement Award

This award is given each year to recognize an individual for an outstanding achievement in computer graphics and interactive techniques.

ACM SIGGRAPH Outstanding Service Award

This award is given annually to recognize outstanding service to ACM SIGGRAPH by a volunteer. It recognizes persons who have given extraordinary service to ACM SIGGRAPH, both in the trenches and in positions of more responsibility or visibility, over a significant period of time.

The Significant New Researcher Award

The Significant New Researcher Award is given annually to a researcher who has made a recent significant contribution to the field of computer graphics and is new to the field. The intent is to recognize people who, through early in their careers, have already made a notable contribution.

The Distinguished Artist Award for Lifetime Achievement in Digital Art

The award is given 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.

The Outstanding Doctoral Dissertation Award

Awarded annually to recognize a recent doctoral candidate who has successfully defended and completed a dissertation in computer graphics and interactive techniques.

ACM SIGGRAPH Practitioner Award

This inaugural award will be given annually to recognize outstanding contributions to the practice and advancement of Computer Graphics and Interactive Techniques. It recognizes the very best and most influential applications and practitioners.

ACM STUDENT RESEARCH COMPETITION FINAL PRESENTATION



Student posters are selected for judging at SIGGRAPH 2018. A panel of distinguished judges selects three semi-finalists in each category (undergraduate and graduate), who present their work to SIGGRAPH 2018 attendees. The competition is sponsored by Microsoft.

APPY HOUR



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

ART GALLERY



Building upon an exciting and eclectic selection of creative practices mediated through technologies that represent the sophistication of our times, the SIGGRAPH 2018 Art Gallery will embrace the narratives of the indigenous communities near Vancouver and throughout Canada as a source of inspiration.

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- Exhibits Only
- Exhibitors
- Business Symposium

CONFERENCE OVERVIEW

ART PAPERS



This program invites artists, theorists, historians, and researchers to submit contributions at the intersection of creative and technological innovation. Works cover the processes and theoretical frameworks for making art and contextualizing its place in society.

BIRDS OF A FEATHER (BOF)



Informal presentations, discussions, and demonstrations, designed by and for people who share interests, goals, technologies, environments, or backgrounds. For an updated list of the Birds of a Feather sessions visit:

<https://s2018.siggraph.org/conference/conference-overview/birds-of-a-feather/>

BUSINESS SYMPOSIUM



New in 2018, the SIGGRAPH 2018 Business Symposium provides busy decision-makers with a weekend of insights into the state of the computer graphics industry and its future.

COMPUTER ANIMATION FESTIVAL

Electronic Theater: ●●●●● (● on Monday Only)
VR Theater (Screenings): ●●●●●
VR Theater (Kiosks): ●●●●●

Electronic Theater

A celebration of storytelling through the prism of computer graphics, with high-tech projection of the finest achievements in animated storytelling, visual effects, and scientific visualization.

VR Theater

The VR Theater is a space for attendees to experience next-generation storytelling in virtual reality.

COURSES



Whether it's foundational material for researchers and practitioners, or a review of the state-of-the-art in a specific area, SIGGRAPH 2018 Courses offer learning opportunities for everyone.

EDUCATOR'S FORUM



The Educator's Forum includes curated and juried content specifically targeted to educators, from K-12 through undergraduate and graduate programs. The Educator's Forum includes a SIGGRAPH Education Committee Town Hall and Educator's Meet and Greet.

EMERGING TECHNOLOGIES



Test-drive the latest interactive and graphic technologies before they transform the way we live and work. SIGGRAPH 2018 includes hands-on demonstrations of research from three core areas of the human experience: health, home and entertainment.

EXHIBITION



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

EXHIBITOR SESSIONS



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

EXPERIENCE PRESENTATIONS



Informal presentations on new ideas that are applicable to techniques, concepts, and strategies related to the Experience Hall (Art Gallery, Emerging Technologies, Studio) and Immersive Pavilion (Village and VR Theater) programs.

INTERNATIONAL RESOURCE CENTER



Operated by the ACM SIGGRAPH International Resources Committee, the International Resource Center shares resources for our International visitors and offers a place for attendees to meet, collaborate, learn and be inspired. Learn how the industry is evolving worldwide and take advantage of informal translation services and space for meetings, talks, and demonstrations.

JOB FAIR



Looking for an opportunity? Interested in meeting with some inspiring companies? Discover your future at SIGGRAPH 2018. In the Job Fair, attendees connect with employers before, during, and after the conference via the CreativeHeads.net job board and candidate profiling system.

KEYNOTE SESSION



Monday, 13 August, 2-3:15 PM

SIGGRAPH 2018 is pleased to welcome Rob Bredow, head of Industrial Light & Magic, to share his unique vision of how media and technological innovation can intersect to tell great stories and create groundbreaking experiences.

PANELS



Expert panelists freely discuss and debate important topics in computer graphics and interactive techniques with each other and the audience.

Registration Level:

● Full Conference Platinum ● Full Conference ● Select Conference ● Exhibits Plus ● Exhibits Only ● Exhibitors ● Business Symposium

POSTERS



On display! Experience research and ideas from the global computer graphics community. The Posters Program at SIGGRAPH 2018 is the place to see where the field is headed. Posters may be in-progress research, student projects, or late-breaking work. During the Poster Presentations, authors discuss their work with attendees.

PRODUCTION GALLERY



This one-of-a-kind exhibit recognizes the art, processes, and physical materials involved in the creation of major studio projects — not just the final piece on screen. The gallery features artwork, props, costumes, and more from recent film, VR, or game productions.

PRODUCTION SESSIONS



Where the world's most talented production teams share their processes and techniques from some of the most exciting content in computer animation, VFX, games and VR.

REAL-TIME LIVE!



It's the future of interactive techniques, live on stage! Watch the most innovative interactive techniques as they are presented and deconstructed live by their creators.

RECEPTION



Monday, 13 August, 8-10 PM
East Building, Exhibit Hall B, Vancouver Convention Centre

Come Sail Away!

The SIGGRAPH 2018 reception will take place beneath the Canada Place Sails in the Vancouver Convention Centre East Building. Join fellow researchers, scientists, artists, and entrepreneurs to celebrate 45 years of innovation, imagination, and technological breakthroughs - the hallmarks of SIGGRAPH Conferences.

Gather with pioneers from the past and the upcoming generation of dreamers and thinkers who are shaping the future of computer graphics and interactive techniques.

SIGGRAPH NEXT



Brings together high-profile thought leaders to share visionary perspectives on emerging areas within computer graphics and interactive techniques. Topics speak to "What's Next" for the industry, such as artificial intelligence and other groundbreaking new trends.

STUDIO



Create works of art, items of functionality, or objects of novelty. If you can imagine it, the SIGGRAPH Studio has the resources to help you make it a reality. Attend Studio Workshops that educate attendees on state-of-the-art processes and workflow pipelines.

TALKS



Go behind the scenes and into the minds of the conference creators in all areas of computer graphics technology and interactive techniques.

TECHNICAL PAPERS



The premier international forum for disseminating and discussing new scholarly work in computer graphics technology and interactive techniques.

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.

VIRTUAL, AUGMENTED AND MIXED REALITY



Come play with the future. New at SIGGRAPH 2018, Virtual, Augmented and Mixed Reality are on tap in the Immersive Pavilion, as we celebrate the evolution of the medium. The Immersive Pavilion is the place to experience, play, and learn about the latest technological advances. It will host physical spaces to learn about the advancements in immersive realities such as the Vrcade (games and experiences), the Museum and the Village (installations).

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

CONFERENCE SCHEDULE

REGISTRATION

Saturday, 11 August
5-7 PM

Sunday, 12 August
8:30 AM-6 PM

Monday, 13 August
8:30 AM-6 PM

Tuesday, 14 August
8:30 AM-6 PM

Wednesday, 15 August
8:30 AM-6 PM

Thursday, 16 August
8:30 AM-1 PM

MERCHANDISE PICKUP CENTER/ SIGGRAPH STORE

Saturday, 11 August
5-7 PM

Sunday, 12 August
8:30 AM-6 PM

Monday, 13 August
8:30 AM-6 PM

Tuesday, 14 August
8:30 AM-6 PM

Wednesday, 15 August
8:30 AM-6 PM

Thursday, 16 August
8:30 AM-3:30 PM

BUSINESS SYMPOSIUM

Saturday, 11 August
8 AM-6 PM

Sunday, 12 August
8:30 AM-1:30 PM

SUNDAY, 12 AUGUST

8:30 AM-6 PM

Attendee Lounge

9-10:30 AM

Courses

A Conceptual Framework for
Procedural Animation

Talks

I Can See Clearly Now

9-11 AM

Birds of a Feather

Virtual Reality in Education

9 AM-12:15 PM

Courses

- Getting Started with WebGL and Three.js
- Introduction to the Vulkan Graphics API

9 AM-5 PM

ACM SIGGRAPH Diversity and Inclusion Summit

ACM SIGGRAPH Sunday Workshops

9 AM-6 PM

International Center

9:30 AM-5:30 PM

Exhibitor Session

NVIDIA

10-11 AM

Birds of a Feather

International collegiate Virtual Reality
Contest (IVRC)

10:45 AM-12:15 PM

Panels

Color Mavens Advise on Digital Media
Creation and Tools

Talks

- Well Worn
- Best of SIGCHI

11:30 AM-12:30 PM

ACM SIGGRAPH Theater Event

CG in Australasia

12:30-2 PM

Birds of a Feather

Demoscene Underground Real-Time
Art Worldwide

1:30-5:30 PM

Art Gallery

Computer Animation Festival: VR Theater Kiosks

Emerging Technologies

Immersive Pavilion

Posters

Production Gallery

Studio

2-3 PM

ACM SIGGRAPH Theater Event

SIGGRAPH in Japanese + Japan CG Showcase

2-3:30 PM

Birds of a Feather

Blender Foundation - Community Meeting

Courses

Story: It's Not Just for Writers...Anymore!

Talks

- Augmenting Your Reality
- Hares & Hairs
- It's a Material World
- IEEE TVCG Session on Virtual and Augmented Reality

2-5 PM

Computer Animation Festival: VR Theater

(Full Conference Platinum Only)

CONFERENCE SCHEDULE

2-5:15 PM

Courses

Deep Learning: A Crash Course

3-4:30 PM

ACM SIGGRAPH Theater Event

Open Forum of the ACM SIGGRAPH Digital Arts Community

3:30-4:30 PM

Birds of a Feather

Blender Spotlight

3:45-5:15 PM

Experience Presentations

Augmented Reality is Here

Panels

- Design and Implementation of Modern Production Renderers
- Interactive Dance Club '98 - a Legend in the Making!

Talks

- En Masse
- IEEE TVCG Session on Advances in Data Visualization
- Olaf's Image Capture Adventure!

4-4:30 PM

Birds of a Feather

Spanish Speakers in Animation and VFX Meetup

4:30-5:30 PM

ACM SIGGRAPH Theater Event

SIGGRAPH for Beginners - General View

6-8 PM

Technical Papers Fast Forward

8:30-11:15 PM

Production Session

"Jurassic Park" 25th Anniversary Screening (with Steve "Spaz" Williams Introduction)

9-11 PM

Birds of a Feather

Taipei ACM SIGGRAPH Chapter Reunion (a.k.a. Taiwan Night)

MONDAY, 13 AUGUST

8-8:45 AM

SIGGRAPH Next

The Future's Waiting

8:30-9 AM

Educator's Forum

Education Committee Welcome

8:30 AM-6 PM

Attendee Lounge

9-10 AM

Exhibitor Session

Autodesk

9-10:30 AM

Educator's Forum

Panel: FuturePrep – Industry Views on Education

Opening Ceremony and Awards Presentation

Talks

- Be There or Be Square
- Clean Up Your Room!
- Effects Blender

9-11 AM

Birds of a Feather

The Immersive Visualisation for Science, Research and Art

9 AM-12:15 PM

Courses

- Advances in Real-Time Rendering in Games Part 1
- An Introduction to Physics-Based Animation
- Fundamentals of Color Science

9 AM-5 PM

Exhibitor Session

MPC Film

CONFERENCE SCHEDULE

9 AM-6 PM

International Center

9:30 AM-12:30 PM

Exhibitor Session

NVIDIA

9:30 AM-6 PM

Posters

10 AM-5:30 PM

Art Gallery

**Computer Animation Festival:
VR Theater**

Emerging Technologies

Immersive Pavilion

Production Gallery

Studio

Studio Workshops

10:15-11:45 AM

Studio Workshop

3D Printing

10:30 AM-12 PM

Birds of a Feather

- Massive Collaborative Animation Projects
- MaterialX: An Open Standard for Network-Based CG Object Looks

Exhibitor Session

Shotgun Software (Autodesk) - Class:
Toolkit Administration

10:45 AM-12:15 PM

Educator's Forum

Groovy Graphic Assignments I

Panel

VR@50: Celebrating Ivan Sutherland's 1968
Head-Mounted 3D Display System

Production Session

DNEG, Framestore, and MPC Present: The
Visual Effects of "Blade Runner 2049"

10:45 AM-12:15 PM

Panels

VR@50: Celebrating Ivan Sutherland's 1968
Head-Mounted 3D Display System

Production Session

DNEG, Framestore, and MPC Present: The
Visual Effects of "Blade Runner 2049"

10:45 AM-12:35 PM

Technical Papers

- A Race to the Bottom (of the Geometric
Energy Plot)
- An Immersion in Computational Geometry
- Computational Photography

11 AM-12 PM

ACM SIGGRAPH Theater Event

CG in Asia

12-1:30 PM

Birds of a Feather

ACM SIGGRAPH Cartographic
Visualization (Carto)

12-2 PM

Exhibitor Session

Foundry (lunch included)

12:15-1:15 PM

Poster Sessions

12:30-1:30 PM

Birds of a Feather

Meet the Candidates for the ACM SIGGRAPH
Executive Committee

1-2 PM

Birds of a Feather

Open Shading Language

2-3:15 PM

Keynote Session

Rob Bredow, Industrial Light & Magic

2-3:30 PM

Talks

Potpourri

Technical Papers

- Cloth Encounters of the Shirt Kind
- Smart Integration for Real-Time Rendering
- Virtually Human

2-5:15 PM

Courses

- Advances in Real-Time Rendering in
Games Part 2
- Applications of Vision Science to Virtual
and Augmented Reality

3-5 PM

Birds of a Feather

Web3D Korea Chapter Standardization
Meeting

3:30-4:30 PM

Birds of a Feather

- ACM SIGGRAPH Discussion of New
Communities and New Frontiers
- AliceVision: an Open Source
Photogrammetry Pipeline in Visual Effects
Production
- The Massive Collaborative Animation
Projects & the Student Experience

Exhibitor Session

Autodesk

3:45-5:15 PM

ACM SIGGRAPH Award Talks

Educator's Forum

Groovy Graphics Assignments II

Experience Presentations

- Alternative Multiviewer Visual Displays
- Creating Virtual Realities

Studio Workshop

Imverse Livemaker – 1

Talk

Production Junction

CONFERENCE SCHEDULE

3:45-5:35 PM

Talk

Gouging the Surface

4-5 PM

ACM SIGGRAPH Theater Event

Origins of SIGGRAPH: The History of Innovation, Community, and Creative Expression

4-6 PM

Exhibitor Session

Foundry

5:30-8:30 PM

Birds of a Feather

UW CSE Reunion Gathering

6-8 PM

Birds of a Feather

The 31st Anniversary, Kawaguchi's Sake Party at SIGGRAPH

Computer Animation Festival: Electronic Theater

8-10 PM

Conference Reception

Come Sail Away!

TUESDAY, 14 AUGUST

8-8:45 AM

SIGGRAPH Next

Connections: The Intersection of Graphics and Medicine

8:30-9 AM

Educator's Forum

Education Committee Welcome

8:30 AM-6 PM

Attendee Lounge

9-10 AM

Exhibitor Session

Pixit Media, Jellyfish Pictures, and Microsoft

9-10:30 AM

ACM SIGGRAPH Theater Event

Introduction to the Digital Arts Community Online Exhibitions

Educator's Forum

Talks: VR/AR in Education

Talks:

For the Love of Tech Art

Technical Papers

- Cleaning Up the Mesh We Made
- Computational Photos and Videos
- Interaction/VR

9 AM-5 PM

Exhibitor Sessions

- Amazon Web Services
- Autodesk

9 AM-6 PM

International Center

9:30 AM-12:30 PM

Exhibitor Session

NVIDIA

9:30 AM-6 PM

Exhibition Show Floor

Job Fair

Posters

StudioXperience

10-11 AM

Exhibitor Session

Chaos Group

10-11:30 AM

Birds of a Feather

Leonardo: Where Ideas Don't Take Sides

10 AM-12 PM

Exhibitor Sessions

- Foundry
- Walt Disney Company

10 AM-5:30 PM

Art Gallery

Computer Animation Festival: VR Theater

Emerging Technologies

Immersive Pavilion

Production Gallery

Studio

10:15-11:45 AM

Studio Workshop

LEDs as Sensors

10:30-11:30 AM

Birds of a Feather

Emphasizing Empathy in the Pipeline Process

Exhibitor Session

Mr. X and Microsoft

10:30 AM-12 PM

Birds of a Feather

CesiumJS: 3D Globes on the Web

CONFERENCE SCHEDULE

10:45 AM-12:15 PM

Courses

Color in Advanced Displays: HDR, OLED, AR, and VR

Educator's Forum

Talks: SIGCSE Reprise

Production Session

"Wreck-It Ralph 2": Visualizing the Internet

Talks

- Skinny & Flexible
- USD Certified Lean, Eh?

10:45 AM-12:35 PM

Technical Papers

- Image & Shape Analysis With CNNs
- Layers, Glints and Surface Microstructure

11 AM-12 PM

Exhibitor Session

- Chaos Group
- Pixar Animation Studios

12-1 PM

ACM SIGGRAPH Theater Event

CG in Canada: Education to Industry

12-1:30 PM

Birds of a Feather

Bridging the Gap: VFX/Anim Production Scheduling & Software Dev/Rollout - Open Discussion

Studio Workshop

A Processing Primer for Artists

12:15-1:15 PM

Poster Sessions

12:15-1:45 PM

Art Gallery Opening Sessions and Session #1

12:30-1:30 PM

Exhibitor Session

Microsoft

1-2 PM

ACM SIGGRAPH Theater Event

Women in CG

Birds of a Feather

- Maps, Urban Data, and Geocoding in Graphics
- OpenColorIO Meetup
- Teaching Virtual Reality

Exhibitor Session

Pixar Animation Studios

1-3 PM

Exhibitor Session

Foundry

1-5 PM

Exhibitor Session

Walt Disney Company

1:30-2:30 PM

Birds of a Feather

Sharing Ideas in Teaching 3D Animation

2-3 PM

Birds of a Feather

Going Cloud Native

Exhibitor Sessions

- Chaos Group
- Panasas, Inc.

2-3:30 PM

ACM SIGGRAPH Theater Event

Thesis Fast Forward

Educator's Forum

Course: Bringing 3D Printing to the Classroom

Experience Presentations

- Stories in Virtual Reality - Part 1
- Technologies in Near Eye Displays

Panel

Future Artificial Intelligence and Deep Learning Tools for VFX

Production Session

"Game of Thrones" Season 7: Orchestrating Sea Battles and Blowing Up a Big Wall

Reception

Leonardo, Art Papers, and Art Gallery

Studio Workshop

Unity Games 1: Scriptable Render Pipeline From Scratch

Talks

Visual Visage

Technical Papers

- Cutting, Zipping and Folding Surfaces
- That's Elastic
- Volume Rendering and Global Illumination

2-5:30 PM

Exhibitor Session

NVIDIA

3-4 PM

Birds of a Feather

- Cloud Rendering
- OpenTimelineIO: Official Open-Source Meet Up

Exhibitor Sessions

- Chaos Group
- Pixar Animation Studios

3-4:30 PM

Birds of a Feather

Autonomous Driving Simulation and Visualization

3:30-4:30 PM

ACM SIGGRAPH Theater Event

Creative BC - Levering Incentives in Animation, VFX & Film

Birds of a Feather

Online Collaboration with Virtual Studio Production

Exhibitor Session

Isotropix

3:45-5:15 PM

Courses

Digital Typography Rendering

Educator's Forum

Talks: Animation in Education

Production Session

LAIKA's "Missing Link": Raising the VFX Bar

Studio Workshop

Imverse Livemaker - 2

Talks

- Creating the Unreal
- Tripping the Light VR

3:45- 5:35 PM

Art Papers Session #1

Technical Papers

- Fluids 1: Raiders of the Lost Volume
- Taking Flight

4-5 PM

Exhibitor Session

Chaos Group

4-6 PM

Birds of a Feather

USD and OpenSubdiv: Official Open-Source Meet Up

Exhibitor Sessions

- Foundry
- Pixar Animation Studios

4:30-5:30 PM

Birds of a Feather

Renderfarming

4:30-6 PM

ACM SIGGRAPH Theater Event:

CG in Latin America

6-7:45 PM

Real-Time Live!

6-11 PM

Birds of a Feather

StudioSysAdmins 10 Year Anniversary
Studio Mingle

9-11 PM

Computer Animation Festival: Electronic Theater

WEDNESDAY, 15 AUGUST

8-8:45 AM

SIGGRAPH Next

NextGen Education Models

8:30 AM-7 PM

Attendee Lounge

9-10 AM

Birds of a Feather

Paving the Way: Digital Art at SIGGRAPH 1980 - 1999

9-10:30 AM

Experience Presentations

Designing for a Digital World

Talks

Light it Up

Technical Papers

- Fields and Remeshing
- Fluids 2: Vortex Boogaloo
- Sketching

9-11 AM

ACM SIGGRAPH Theater Event

ACM SIGGRAPH Chapters Fast Forward and Startup Meeting

9 AM-12:15 PM

Courses

- 3D User Interfaces for Virtual Reality and Games: 3D Selection, Manipulation, and Spatial Navigation
- Monte Carlo Methods for Physically Based Volume Rendering

9 AM-6 PM

Exhibitor Session

Autodesk Vision Series

9 AM-6 PM

International Center

CONFERENCE SCHEDULE

9:30 AM-12:30 PM

Exhibitor Session

NVIDIA

9:30 AM-6 PM

Exhibition Show Floor

Job Fair

Posters

10-11 AM

Birds of a Feather

Openscenegraph

Exhibitor Session

Chaos Group

10 AM-12 PM

Birds of a Feather

Creating Compelling CG Worlds at the Jet Propulsion Laboratory

10 AM-5 PM

Exhibitor Session

Blue Sky Studios

10 AM-5:30 PM

Art Gallery

Computer Animation Festival: VR Theater

Emerging Technologies

Immersive Pavilion

Production Gallery

Studio

10:15-11:45 AM

Studio Workshop

Designing Mini-Skateboard Designs for Laser Etching

10:30-11:30 AM

Exhibitor Session

Deep Vision Data

10:30 AM-12 PM

Birds of a Feather

Motion Capture Society

10:30 AM-12:30 PM

VR/MR/AR 4 Good: Creating with a Purpose

10:45 AM-12:15 PM

Production Session

Three Keys to Creating the World of "Ready Player One" - Visual Effects & Virtual Production

10:45 AM-12:35 PM

Art Papers Session #2

Technical Papers

- 3D Capture
- Flattening, Unflattening and Sampling
- Sounds Good!

11 AM-12 PM

Birds of a Feather

- Gaffer: Open Source Lookdev, Lighting, and Automation
- Immersive Media

Exhibitor Sessions

- Chaos Group
- Pixar Animation Studios

11 AM-12:30 PM

Birds of a Feather

Design Printing and Scanning: Web3D Makers Making More!

12-1 PM

Birds of a Feather

Mobile VR/AR Meetup

12-1:30 PM

Studio Workshop

Creating a Virtual Host Experience Using Sumerian Hosts

12:15-1:15 PM

Poster Session

12-1:30 PM

Birds of a Feather

VFX Reference Platform - A Common Target for Building VFX Software

Exhibitor Session

Nimble Collective and Microsoft

12:30-2 PM

Birds of a Feather

- Berthouzoz Women in Research Lunch
- ISEA International Open Forum
- Material Definition Language (MDL): Application Independent PBR Materials
- WebVR Evolution for a Larger Web

1-1:30 PM

Birds of a Feather

Make a Difference - Get Involved with the SIGGRAPH Education Committee

1-2 PM

Exhibitor Session

Pixar Animation Studios

1-2 PM

Exhibitor Session

Walt Disney Company

2-3 PM

Birds of a Feather

- DCAJ Presentation "Advanced Content Technology in Japan"
- It's Time to Kill the Demo Reel

Exhibitor Session

Chaos Group

CONFERENCE SCHEDULE

2-3:30 PM

Art Gallery Session #2 Experience Presentations

Birds of a Feather

- British Columbia Virtual and Augmented Reality BOF Gathering
- Computer Graphics for Simulation
- Scaling Up 3D Medical Applications for People Everywhere

Experience Presentations

- Experiencing Realities - Part 1
- Let's Get Physical

Panels

The Present and Future of Real-Time Graphics for Film

Production Session

"The Incredibles 2": Suit Up, It Might Get Weird!

Studio Workshop

Unity Games 2: Customizing a Production Render Pipeline

Technical Papers

- Computational Cameras
- Decision & Style
- Deep Thoughts on How Things Move

2-5 PM

Exhibitor Session

NVIDIA

2-5:15 PM

Courses

Pathtracing in Production

3-4 PM

Exhibitor Sessions

- Chaos Group
- Pixar Animation Studios

3:30-4:30 PM

Emerging Technologies Award Ceremony

3:45-5:15 PM

ACM Student Research Competition Final Presentation

Art Gallery Session #3

Experience Presentations

Games in Multiple Realities

Panels

Visual Effects in the Age of the Cloud

Production Session

Generations of Houdini in Film

Studio Workshop

Inverse Livemaker – 3

Technical Papers

Perception & Haptics

3:45-5:35 PM

Technical Papers

- Learning for Rendering and Material Acquisition
- Textiles & Microstructures

4-5 PM

Birds of a Feather

Undergraduate Research Alliance

Exhibitor Session

Chaos Group

4-6 PM

Birds of a Feather

ACCAD / Ohio State University Gathering

5-7 PM

Appy Hour

8-10 PM

Computer Animation Festival: Electronic Theater

THURSDAY, 16 AUGUST

8:30 AM-3:30 PM

Attendee Lounge

9-10:30 AM

Experience Presentations

- Paddles, Swords, Rubber Arms, and Other Haptic Tools
- Stories in Virtual Reality - Part 2

Technical Papers

- Design
- New Additions (and Subtractions) to Fabrication
- Pipelines and Languages for the GPU

9 AM-12:15 PM

Courses

- Moving Mobile Graphics
- Topics in Real-Time Animation

9 AM-3:30 PM

International Center

9:30 AM-12:30 PM

Exhibitor Session

NVIDIA

9:30 AM-3 PM

StudioXperience

9:30 AM-3:30 PM

Exhibition Show Floor

Posters

10 AM-3:30 PM

Art Gallery

Computer Animation Festival:
VR Theater

Emerging Technologies

Immersive Pavilion

Production

Studio

CONFERENCE SCHEDULE

10:45 AM-12:15 PM

Production Session

"Crow: The Legend" - Bringing a Native American Legend into VR

Talk

Sampling the Product

10:45 AM-12:35 PM

Technical Papers

- Animation Control
- Disorder Matter: From Shells to Rods and Grains
- Shape Analysis

12-1:30 PM

Studio Workshop

Creating an Immersive Scene Using Amazon Sumerian

12:30-2 PM

Birds of a Feather

French Schools Screening

2-3:30 PM

Courses

Cage-Based Performance Capture

Panels

The Past, Present and Future of the Video Game Cinematic

Production Session

Making the Kessel Run in Less Than 12 Parsecs - The VFX of "Solo: A Star Wars Story"

Studio Workshop

Unity Games 3: Creating a Custom Production Ready Render Pipeline

Talks

Ohooo Shiny!

Technical Papers

- An Atlas for the World and Other Surfaces
- Fabrication for Color and Motion
- Portraits & Speech

2-5:15 PM

Courses

Machine Learning and Rendering

3:45-5:15 PM

Experience Presentations

Experiencing Realities - Part 2

Production Session

The Making of Marvel Studios' "Avengers: Infinity War"

Talks

Blow it Up Real Good

Technical Paper

Bodies in Motion Human Performance Capture



COME SAIL AWAY AT THE SIGGRAPH 2018 RECEPTION!

Gather with pioneers from the past and the upcoming generation of dreamers and thinkers who are shaping the future of computer graphics and interactive techniques.

When: Monday, 13 August, 8-10 PM

Where: East Building, Exhibit Hall B, Vancouver Convention Centre

During Appy Hour, the latest mobile app creations are on tap for attendees to test drive and share their feedback with the independent app developers who created them.



WEDNESDAY, 15 AUGUST, 5-7 PM

Augmented Reality Interfaces for the Internet of Things

An overview of several augmented reality Interfaces for the Internet of Things, from virtual pets to ambient temperature awareness is presented.

Yosun Chang
AReality3D, Permute.xyz

Game Environment

This is my personal open world game environment project that includes Lamborghini hurricane driving around the city.

Rudraksh Jain
Arena Animation Ajmer

HoloSensor for Smart Home, Health

HoloSensor combines two emerging technologies, augmented reality and Internet of Things, to enhance the visual analytics of sensor data. With its minimalistic design and intuitive UI, it allows users to create and interact with holograms that display meaningful information about sensors in your home in real-time and in any device.

Jisun Jang
CSIRO Data61, The University of Sydney

Tomasz Bednarz
CSIRO Data61, UNSW EPICentre

Kid-Friendly Digital Mirror for Education and Exercise

REALITEER Corp. created a cross-platform and kid-friendly digital mirror that can

be used for education and body exercise utilizing AR/VR technologies. In a gamified manner, we take users through educational research-based exercises that will not only tackle the psychiatric and physical conditions but better overall well-being.

Fangwei Lee
Janet Yu-Jung Lin
Elliot Segal
Realiteer Corp.

MaeSTRo: Mobile-Style Transfer Orchestration Using Adaptive Neural Networks

This mobile app enables users to direct, edit, and perform on-device neural style transfers for interactively transforming photos into artistic renditions. At this, multi-style generative and adaptive neural networks can be locally controlled by on-screen painting metaphors to direct a semantics-based composition and perform location-based filtering.

Max Reimann
Amir Semmo
Hasso Plattner Institute, University of Potsdam for Digital Engineering gGmbH

Sebastian Pasewaldt
Mandy Klingbeil
Digital Masterpieces GmbH

Jürgen Döllner
Hasso Plattner Institute, University of Potsdam for Digital Engineering gGmbH

Mobile Inside-Out VR Tracking Now Available on Your Phone

VR is all about immersion, and tracking the user's position is a fundamental element of VR. To date, this has only been available in desktop and console VR. This app shows that it is possible to achieve inside-out

tracking for mobile VR in the latest devices incorporating Google ARCore.

Roberto Lopez Mendez
Arm Ltd.

SuperD: Fast Organic Modeling on Your Mobile

The SuperD app is a conceptual modeler, with a SubD-like interface but better surfacing; it also runs quickly on mobiles. It has an easy intuitive interface with finger gestures, resulting in sophisticated shapes that are watertight for 3D printing. Content and a segue for VR/AR are provided.

Alyn P. Rockwood
Boulder Graphics LLC

The Hiatus System

The Hiatus System is a mobile VR project that utilizes a mixture of modern and ancient Buddhist meditation techniques in an effort to teach an individual how to better cope with and manage stress. This work combines the disciplines of design, art, psychology, emerging technology and neuroscience.

Kevin Bruggeman
KJ Studio, Ohio State University

Skylar Wurster
Ohio State University

WallText: Augmented Reality Messaging Platforms

Augmented reality can be an expressive platform for text-based augmentations. We will show several apps, from graffiti to annotations built on AReality3D WallText platform.

Yosun Chang
AReality3D, Permute.xyz

Registration Level:

● Full Conference Platinum ● Full Conference ● Select Conference ● Exhibits Plus ● Exhibits Only ● Exhibitors ● Business Symposium

Interest Areas:

■ Production & Animation ● Research & Education ◆ Arts & Design ● Gaming & Interactive ▲ New Technologies

Building upon an exciting and eclectic selection of creative practices mediated through technologies that represent the sophistication of our times, the SIGGRAPH 2018 Art Gallery will embrace the narratives of the indigenous communities near Vancouver and throughout Canada as a source of inspiration.

Art Gallery Hours:

Sunday, 12 August, 1:30-5:30 PM
 Monday, 13 August, 10 AM-5:30 PM
 Tuesday, 14 August, 10 AM-5:30 PM
 Wednesday, 15 August, 10 AM-5:30 PM
 Thursday, 16 August, 10 AM-3:30 PM

LEONARDO

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 special issue coincides with SIGGRAPH 2018.



RECEPTION: LEONARDO, ART PAPERS, AND ART GALLERY



Tuesday, 14 August, 2-3:30 PM

Mix and mingle with artists, researchers, and authors whose works were selected for SIGGRAPH 2018. Meet the *Leonardo* team and members of the SIGGRAPH 2018 committee. Sponsored by Leonardo/ISAST and The MIT Press.

EXPERIENCE PRESENTATIONS



Artist talks will be presented in the Art Gallery at the following times:

Art Gallery Opening Session and Session #1: Artist Talks

Tuesday, 14 August, 12:15 - 1:45 PM

Skawennati Fragnito
 Shawn Hunt, Andy Klein, and
 Microsoft Garage
 Dima Veryovka and Amy Fredeen
 Moderator: Andres Burbano

During Leonardo Reception in the Art Gallery

Tuesday, 14 August, 2-3:30 PM

Ernest Edmonds
 Roger Malina
 Nicole L'Huillier
 Mirjana Prpa
 Moderator: Erica Hruby
 Coordinators: Angus Forbes, Andres Burbano

Session #2: Artist Talks

Wednesday, 15 August, 2-3:30 PM

Daniel Cardoso
 Ozge Samanci
 Milton Sogabe and Fernando Fogliano
 Moderator: Nik Apostolides

Session #3: Artist Talks

Wednesday, 15 August 3:45-5:15 PM

Marko Peljhan
 Ruth West
 Alex Beim
 Moderator: Daniel Cardoso

FEATURED WORKS

Art Systems: 1968 to 2018



This project showcases Ernest Edmonds' (UK) 2017 ACM SIGGRAPH Lifetime Achievement Award in Digital Art, featuring the following artworks: Nineteen (1968), Datapack (1969), Communications Game (1972), and Shaping Form (2002). All these artworks are directly related to papers published in *Leonardo* since 1973, from issue 3 until now.

Ernest Edmonds
De Montfort University

She Falls For Ages



This sci-fi retelling of the Haudenosaunee (Iroquois) creation story reimagines Sky World as a futuristic utopia and Sky Woman as a brave astronaut and world-builder. When she learns that her planet is dying, Sky Woman volunteers to become the seed of the new world, an Earth covered in water. Produced using the new media technique known as machinima, *She Falls For Ages* boldly mixes ancient storytelling with science fiction to connect the deep past with the far future.

Skawennati Fragnito
Aboriginal Territories in Cyberspace

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

Interest Areas:

- Production & Animation
- Research & Education
- ◆ Arts & Design
- Gaming & Interactive
- ▲ New Technologies

He Ao Hou (A New World)

“He Ao Hou” is a point-and-click adventure game set in the far future, when your people (Native Hawaiians) have attained the next level of navigation: space travel. It is the result of a unique workshop: Skins Workshops on Aboriginal Storytelling and Video Game Design, offered by an Aboriginally-determined team.

Nā 'Ane Mahiki

Aboriginal Territories in Cyberspace

Transformation Mask

The Raven, the ultimate trickster, has become a cyborg. In this collaboration with Microsoft Vancouver, Shawn Hunt moves away from engaging with the handmade, exploring authenticity and our expectations of what it means to be indigenous through the removal of the hand-carved surface. The mask appropriates the traditional aspects of metamorphosis with the transformation from bird mask to human; yet in this adaptation, the human mask has been altered, upgraded, and merged with the machine. Incorporating aspects of technology, sound, and space, each part of the work reflects Hunt's interest in how we understand and identify with the term “indigenous.”

Shawn Hunt

Independent Artist

Robert Butterworth

Jeremy Kersey

Andy Klein

Julia Taylor-Hell

Jonathan Cobb

Brent Silk

Brendan O'Rourke

Stacey Mulcahy

Microsoft Garage

Never Alone: The Art and the People of the Story

We paired world-class game makers with Alaska Native storytellers and elders to create a game that delves deeply into the traditional lore of the Iñupiat people to present an experience like no other. Never Alone is our first title in an exciting new genre of “World Games,” which draws fully upon the richness

of unique cultures to create complex and fascinating game worlds for a global audience.

Amy Fredeen

Cook Inlet Tribal Council, E-Line Media

Dima Veryovka

Oculus VR, E-Line Media

Somnium

SOMNIUM is a cybernetic installation that provides visitors with the ability to sensorily, cognitively and emotionally contemplate and experience exoplanetary discoveries, their macro and micro dimensions, and the potential for life in our galaxy.

Danny Bazo

Meow Wolf

Marko Peljhan

University of California Santa Barbara, Projekt Atol Institute

Karl Yerkes

University of California Santa Barbara

Archaeology of CAD I: Interactive Software Reconstructions of the 'Coons Patch' and 'Sketchpad'

Two interactive software reconstructions allow gallery visitors to experience two seminal developments in Computer-Aided Design (CAD) history: Steven A. Coons' “Patch” (1967) and Ivan Sutherland's “Sketchpad” (1963). Based on archival research, and custom software and hardware design, these interactive systems offer access beyond the visual into sensual, gestural, and interactive aspects of these landmark computational design techniques. Along with the two reconstructions, a selection of rare handwritten notes by original authors Coons and Sutherland are displayed to offer additional context about the origins of CAD.

Daniel Cardoso-Llach

Carnegie Mellon University

You are the Ocean

You are the Ocean, an interactive installation, generates ocean waves and clouds in response to brain waves of a participant. Water, light, clouds, and lightning are realistically simulated by computer code. A participant wears an EEG (Electroencephalography) headset that measures the user's approximate attention

and meditation levels via brain waves. Through relaxation and concentration, the subject can control the water and sky. Attention level affects storminess: With higher concentration, the waves get higher and the clouds thicken. By calming their mind, the subject can create a calm ocean.

Ozge Samanci

Gabriel Caniglia

Northwestern University

Sopro and Toque (The Blow and Touch)

Considering the discussion on sustainable sources of energy, Sopro (The Blow) and Toque (Touch) seek to aesthetically use the audience's body energy to interact and animate the artworks.

Milton Sogabe

São Paulo State University

Fernando Luiz Fogliano

University of São Paulo

Fabio Oliveira Nunes

Carolina Peres

Soraya Braz

Rodrigo Dorta

Cleber Gazana

Miriam Steinberg

Melina Furquin

Daniel Malva

São Paulo State University

Diastrophisms

Diastrophisms is a sound installation with a modular system that sends images through rhythmic patterns. It is built on a set of debris from the Alto Rio building that was destroyed by the 27F earthquake in 2010 in Chile. With Diastrophisms, we were looking for a poetical, critical, and political crossing between technology and matter in order to raise questions on the relationship between human beings and nature, and to consider the construction of memory in a community by questioning the notion of monument, as well as to imagine new forms of communication in times of crisis.

Nicole L'Huillier

Yasushi Sakai

Massachusetts Institute of Technology / Media Lab

Thomas Sanchez Lengeling

Massachusetts Institute of Technology

Registration Level:

● Full Conference Platinum

● Full Conference

● Select Conference

● Exhibits Plus

● Exhibits Only

● Exhibitors

● Business Symposium

Interest Areas:

■ Production & Animation

● Research & Education

◆ Arts & Design

● Gaming & Interactive

▲ New Technologies

INSTRUMENT | One Antarctic Night

INSTRUMENT | One Antarctic Night lets you jam to the rhythm of 817,373 stars through the power of VR. Created from starlight reaching robotic telescopes in Antarctica after a 160,000-year journey, the experience transports players inside of a star field from the heart of the Large Magellanic Cloud. We're transforming over 758 million data points about 817,373 astronomical objects into a virtual world of light and sound. Inside this luminous space, multiple players collaboratively create new visual and sound remixes from data about the stars and bring to life the rhythms of the cosmos in an endless remix instrument.

Ruth West
Violet Johnson
I Chen Yeh
Zach Thomas
University of North Texas, xREZ Art + Science Lab

Eitan Mendelowitz
Mount Holyoke College

Lars Berg
Independent Artist

Cocoons

Cocoons produce a place of security and tranquility. Like a mother's womb, they are the ultimate comfort zone: the place of origin, where it all begins. Our installation, also named Cocoons, lets you stop, find yourself, and maybe come out and start your day again. A new beginning. We created two organic-shaped inflatables that allow people to go inside and be present at an event while also having a personal, meditative experience. Designed as meta balls, spheres that blend together in a natural configuration, each maintains shape with an electric fan. To enter, guests simply go through a zippered doorway.

Alex Beim
Tangible Interaction

Origins + Journeys

Origins + Journeys is a juried online exhibition organized by the ACM SIGGRAPH Digital Arts Community and conceived alongside the Original Narratives on-site exhibition at SIGGRAPH 2018. The origins and journeys of the selected works are imagined thematically and conceptually, through both the medium and content of the work, which ranges from exploration of the history of digital art, to reflections on personal and collective memories and identities, to provocations towards possible, techno-mediated futures.

List of Projects:

Topography of the Unseen
Volker Kuchelmeister
UNSW University of New South Wales

Occupation
Esteban Gutiérrez
FUBA

Roots, Journeys, Diaspora and Refuge
Leslie Nobler
William Paterson University

Deconstruct to Reconstruct
Jennifer Zaylea
University of the Arts

Structural Analogy
Yuan-Yi Fan
yuanyifan.com

Algorithmic Signs-Five Pioneers of Computer Art in Conversation
Francesca Franco
De Montfort University

Dot
Anna Ursyn
Robert Ehle
University of Northern Colorado

Robert Ehle
University of Northern Colorado

The Zero-Gravity Band
Albert Barqué-Durán
Marc Marzenit
Quo Artis Foundation

Elisa Ferrè
Vestibular Multisensory Embodiment
Royal Holloway University of London

A Brief History of Computer Graphics
Daniel Pillis
Carnegie Mellon University

Embodied Distortion
Ella Husbands
Independent Artist

Zodiacs in the Lower East Side
Cynthia Beth Rubin
C B Rubin studio

Kris Tonski
Fusion Design

Yona Verwer
YV Studio

"Unsettled Interlude | Origin: 45.79835°, -92, 36738°"
Carlos Rosas
The Pennsylvania State University

"Unsettled Drift | Origin 44.981397°, -93.150807°"
Carlos Rosas
The Pennsylvania State University

Quetzalcoatl 2.0.1.2
Yucef Merhi
Independent Artist

Registration Level:

● Full Conference Platinum
 ● Full Conference
 ● Select Conference
 ● Exhibits Plus
 ● Exhibits Only
 ● Exhibitors
 ● Business Symposium

Interest Areas:

■ Production & Animation
 ● Research & Education
 ◆ Arts & Design
 ● Gaming & Interactive
 ▲ New Technologies

This program invites artists, theorists, historians, and researchers to submit contributions at the intersection of creative and technological innovation. Works cover the processes and theoretical frameworks for making art and contextualizing its place in society.

Art Papers Posters Session Presentation

Wednesday, 15 August, 12:15-1:15 PM

LEONARDO

In collaboration with Leonardo/ISAST, the Art 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. Publication of this special issue coincides with SIGGRAPH 2018.



Best Art Paper Award

The Best Art Paper Award recognizes excellence in contributions to the literature on digital arts, computer graphics, and/or interactive techniques. The winner will be announced during Art Papers Session #1, Tuesday, 14 August, 3:45-5:35 PM.

RECEPTION: LEONARDO, ART PAPERS, AND ART GALLERY



Tuesday, 14 August, 2-3:30 PM

Mix and mingle with artists, researchers, and authors whose works were selected for SIGGRAPH 2018. Meet the Leonardo team and members of the SIGGRAPH 2018 committee. Sponsored by Leonardo/ISAST and The MIT Press.

SESSION 1

Tuesday, 14 August, 3:45-5:35 PM

Augmented Fauna and Glass Mutations: A Dialogue Between Material and Technique in Glassblowing and 3D Printing



The two presented artworks, Augmented Fauna and Glass Mutations, were created during an artist residence at the Pilchuck Glass School. They are examples of the qualities and methods established through a synthesis between digital workflows and traditional craft processes, and thus formulate the notion of Digital Craftsmanship.

Tobias Klein
City University of Hong Kong

Registration Level:

● Full Conference Platinum ● Full Conference ● Select Conference ● Exhibits Plus ● Exhibits Only ● Exhibitors ● Business Symposium

Interest Areas:

■ Production & Animation ● Research & Education ◆ Arts & Design ● Gaming & Interactive ▲ New Technologies

Holojam in Wonderland: Immersive Mixed Reality Theater



"Holojam in Wonderland" is a prototype of a new type of performance activity, "Immersive Mixed Reality Theater," with unique and novel properties possessed neither by cinema nor traditional theater, and offering exciting new expressive possibilities for multi-user, participatory, immersive digital narratives.

David Gochfeld
Corinne Brenner
Clara Fernández-Vara
Ken Perlin
New York University

Entropy and FatFinger: Challenging the Compulsiveness of Code with Programmatic Anti-Styles



Coding reinforces a compulsive thought process, as described by Joseph Weizenbaum. Two projects by the author, Entropy (2010) and FatFinger (2017), challenge this through gestural approaches to code. In Entropy, data decays the more often it's used. FatFinger encourages the coder to typo code and strategically guesses the programmer's intent.

Daniel Temkin
Independent Artist

Inhabitat: An Imaginary Ecosystem in a Children's Science Museum



This paper describes a mixed reality artwork for a children's science museum in which participants become part of an imaginary ecology through three simultaneous perspectives of scale and agency. We document motivations, design contributions, and accounts of visitors' playful engagements within the complex interconnectivity of an artificial nature.

Graham Wakefield
York University, Toronto

Haru Hyunkyung Ji
Ontario College of Art and Design, Toronto

Alienating the Familiar with CGI: A Recipe for Making a Full CGI Art House Animated Feature



This paper explores the process of making and funding an arthouse feature film using full CGI in a marketplace where this has never before been attempted. It explores cutting-edge technology and production approaches, as well as routes to successful fundraising.

Paul Charisse
Alex Counsell
University of Portsmouth

Data Materialization: A Hybrid Process for Crafting a Teapot



Data materialization is a workflow to create 3D objects from data-informed designs. This digital workflow expresses conceptually relevant data through tangible form. The process utilizes the subtle application of data in visual art, allowing the aesthetic allure of the art object or installation to inspire intellectual intrigue.

Courtney L. Starrett
Seton Hall University

Susan Reiser
University of North Carolina at Asheville

Tom Pacio
Vassar College

Diastrophisms



Diastrophisms is a sound installation that explores a poetical, critical, and political crossing between technology and matter, in order to raise questions on the relationship between human beings and nature, and to consider the construction of memory in a community by questioning the notion of monument.

Nicole L'Huillier
Massachusetts Institute of Technology / Media Lab

Valentina Montero
Curator, Media Arts Biennial Chile, University of Valparaíso

SESSION 2

Wednesday, 15 August, 10:45 AM-12:35 PM

Robotype: Studies of Kinetic Typography by Robot Display for Expressing Letters, Time, and Movement



Humans use letters, which are two-dimensional static symbols. To write these letters, we have to move our body and spend some time; therefore, it can be said that a letter is the trajectory of movement and time. Based on this notion, we studied three types of kinetic typography using robots.

Yuichiro Katsumoto
Smart Systems Institute, National University of Singapore

Digital Heritage: Bringing New Life to the Montreux Jazz Festival's Audio-Visual Archives with Immersive Installations



Millions of hours of cultural archives have been digitized, but how can we revive them? In partnership with the Montreux Jazz Festival, the EPFL+ECAL Lab brings a UNESCO audio-visual world heritage back to life. Their installations propose a new methodology based on principles of physicality, augmentation, and interaction.

Nicolas Henchoz
Allison Crank
Ecole Polytechnique Fédérale de Lausanne

Here and Now: Indigenous Canadian Perspectives in New Media Works by Ruben Komangapik, Kent Monkman, and Adrian Duke



This paper examines the work of three contemporary artists who employ new media to examine indigenous storytelling and identity. Their practices incorporate new media to challenge those stories that have been told about Canada's indigenous peoples, and to assert indigenous presence in both the digital and physical landscapes.

Brittany Myburgh
University of Toronto

CASTING: Site-Specific Projection Mapping Installation



This paper investigates CASTING (2016), Yiyun Kang's projection mapping installation at the Victoria and Albert Museum (V&A, London), and the acquisition of the piece by the V&A. It identifies how CASTING developed distinctive properties in projected moving image installation artworks and how these novel characters were reflected in the acquisition.

Yiyun Kang
Royal College of Art

Advertising Positions: Data Portraiture as Aesthetic Critique



Advertising Positions integrates 3D-scanning, motion-capture, novel image/texture mapping algorithms, and custom animation to create data portraits from the targeted advertisements served by online trackers. Ads are collected from volunteers and mapped onto the textured skin of their virtual avatars. Outcomes have been displayed as 2D/3D images, animations, and interactive installations.

Daniel C. Howe
School of Creative Media, City University Hong Kong

Qianxun Chen
Brown University

Zong Chen
School of Creative Media, City University Hong Kong

Cop to Conductor: Negotiating and Remapping Meaning in Existing Public Art



Battles are being fought around existing public artworks and monuments, such as the recent actions in Charlottesville, Virginia. The author surveys the strategies artists have used to remediate contested works and presents an interactive art piece that suggests useful approaches in this realm.

Todd Berreth
North Carolina State University

Registration Level:

● Full Conference Platinum
 ● Full Conference
 ● Select Conference
 ● Exhibits Plus
 ● Exhibits Only
 ● Exhibitors
 ● Business Symposium

Interest Areas:

■ Production & Animation
 ● Research & Education
 ◆ Arts & Design
 ● Gaming & Interactive
 ▲ New Technologies

The SIGGRAPH 2018 Business Symposium brings together business strategists, creatives, and academics from around the world for two days of networking and technological exploration. Attendees experience interdisciplinary collaboration through a series of thought-provoking panels, roundtables, keynotes, and an interactive survey chatbot from Rival.

Business Symposium Hours:

Saturday, 11 August 8 AM-6 PM*
Sunday, 12 August 8:30 AM-1:30 PM**

*breakfast, lunch and reception included
**breakfast and lunch included

CONVERSATIONAL CHATBOTS

Capture your ideas and sentiments via the Business Symposium chatbots! Insights are published post-conference.



SATURDAY, 11 AUGUST

The Hidden Costs of AI 9:20-10:15 AM

Andrew Glassner shares AI's social and business implications.

Andrew Glassner
Imaginary Institute

SIGGRAPH Generations Panel 10:45-11:30 AM

Pioneers and thought leaders from the 1970s to present day come together to discuss key moments in the history of computer graphics.

Jim Foley
GeorgiaTech College of Computing

Carolina Cruz Neira
University of Arkansas Little Rock

Ethan Miller
Facebook

Sara Bly
Sara Bly Consulting

Leading at the Intersection of Technology and Creativity 2-2:45 PM

Cheryl Bayer shares how she has continued to stay creative, innovative, and adaptable throughout her career.

Cheryl Bayer
Living Pops, former SVP of Fox Comedy

The New UI/UX 3-3:45 PM

This panel explores interfaces of the future with experts in chatbot, holographic, machine learning, and AR technology.

Eugen Winshel
SAP, Global VP of Product Management

Jon Karafin
Lightfield Labs

Armando Kirwin
Artie

Sonu Durgia
Walmart Labs

Keynote: VR and the Next Generation of Immersive Experiences 3:45-4:30 PM

Explore what's next in AR/VR.

Clive Downie
Unity Technologies

SUNDAY, 12 AUGUST

The Role of Design 9-9:45 AM

Learn how design research (on objects, interactions, and systems) dictate different future outcomes.

Stan Ruecker
University of Illinois

Women Disrupting Tech 10:30-11:15 AM

Get to know three female startup leaders who are revolutionizing the education, health, and AR spaces.

Spandana Govindgari
Hype AR Inc. | Ex Snapchat and Apple

Lee Brighton
Argotian

Angela Robert
Conquer Mobile

Technology That Is Changing Business Models 11:15 AM-12 PM

This panel brings together industry leaders in animation, VFX, gaming, and hardware to explore what's changing and up next for business models and production.

Ben Havey
Head of Disney Technology Innovation Group

Stephen Garrad
Method

Rajiv Chilaka
Green Gold Animation

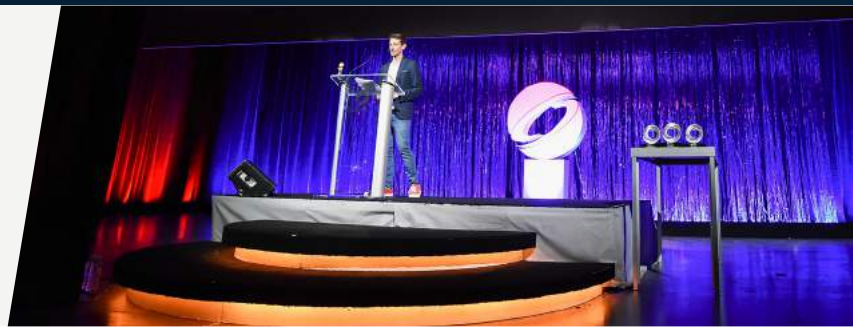
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- Gaming & Interactive
- ▲ New Technologies

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.



SCREENINGS

Monday, 13 August 6-8 PM
Tuesday, 14 August 9-11 PM
Wednesday, 15 August 8-10 PM

Ticket required for entrance.

ADAM: Episode 2

Afterwork

Animation General

Avengers: Infinity War

Bao

Beyond Good and Evil 2 Cinematic Trailer

Bilby

Book of the Dead

Death Van

Far Cry 5: Pastor Jerome

Geometry of Artificial Intelligence

Ghost in the Shell

Hearth and Home

Hybrids

Miazmat

A New Multi-Dimensional View of a Hurricane

One Small Step

Overrun

Paddington 2

Space Between Stars

Solo: A Star Wars Story

Twin Islands

Voyagers

Weeds

1 Metre/heure

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COMPUTER ANIMATION FESTIVAL: VR THEATER

In its second year, the VR Theater will present next-level, interactive stories in virtual reality from innovative creators and offer on-demand content at individual kiosks.



SCREENINGS



Sunday, 12 August, 2-5 PM (● only)

Monday, 13 August, 10 AM-5:30 PM

Tuesday, 14 August, 10 AM-5:30 PM

Wednesday, 15 August, 10 AM-5:30 PM

Thursday, 16 August, 10 AM-3:30 PM



Arden's Wake: Expanded

Eugene YK Chung
Penrose Studios
(United States)

Ashes to Ashes

Steye Hallema, Jamille van Wijngaarden, Ingejan Ligthart Schenk
Submarine Channel
(Netherlands)

Blue Bird

Parnaz Rad, Seth Greenwood, Nicole Tylor, Vinod Krishnan, Armando Brown, Belen Saenz de Viteri, Chuzhong Xie, Miranda Conway, Allie Perdomo
Savannah College of Art and Design
(United States)

Kinch & The Double World

Colin Arnold, Steve Cholerton
Figment Productions
(United Kingdom)

Space Explorers: A New Dawn

Félix Lajeunesse, Paul Raphaël
Felix & Paul Studios, Oculus
(Canada)

The Legend of Hanuman

Charuvi Agrawal, Sharad Devarajan
Graphic India
(India)

Trans-Dimensional Designer

Erdong Gao, Siyi Zhao
Beijing Film Academy
(China)

Trinity

Patrick Boivin
UNLTD-INC
(Canada)

Under Neon Lights

Jono Brandel, Zach Richter
WITHIN
(United States)

KIOSKS



Sunday, 12 August, 1:30-5:30 PM

Monday, 13 August, 10 AM-5:30 PM

Tuesday, 14 August, 10 AM-5:30 PM

Wednesday, 15 August, 10 AM-5:30 PM

Thursday, 16 August, 10 AM-3:30 PM

Kiosks are located on the floor of the Immersive Pavilion and are open to the following badge levels:



Across Dark: Beyond 4th Dimension

Park Dong-ki, Lee Jeon-Hyoung
Hotel Lotte Co., Ltd. Lotte World,
4th Creative Party Co., Ltd.
(South Korea)

Back to the Moon

Fx Goby, Hélène Leroux
Google Spotlight Stories
(United States)

Beyond the Fence

Goro Fujita
Facebook
(United States)

Flying Over NanJing

Yu Jin
Nanjing Naked Light Digital Technology Co., Ltd.
(China)

'Isle of Dogs' Behind the Scenes (In Virtual Reality)

Félix Lajeunesse, Paul Raphaël
Felix & Paul Studios, Fox Searchlight Pictures,
FoxNext VR Studio
(United States)

Registration Level:

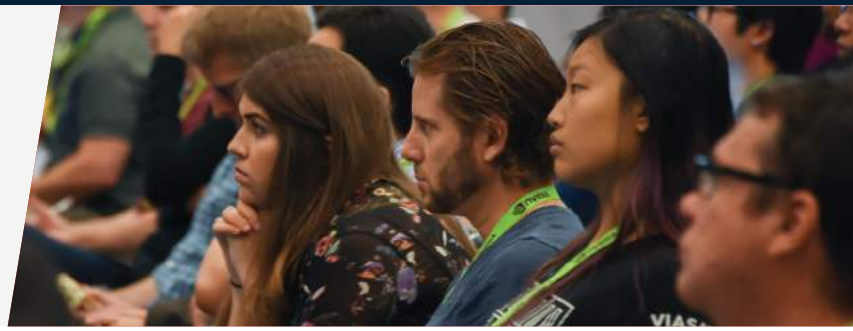
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Whether it's foundational material for researchers and practitioners, or a review of the state-of-the-art in a specific area, SIGGRAPH 2018 Courses offer learning opportunities for everyone.

Full Conference Platinum and Full Conference registration allows attendees access to all SIGGRAPH 2018 Courses. Seating is on a first-come, first-served basis. Please arrive early for the course you wish to attend.



SUNDAY, 12 AUGUST

A Conceptual Framework for Procedural Animation

9-10:30 AM
Level: Beginner

Conceptual Framework for Procedural Animation (CFPA) provides guidelines for designing procedural animation timings. It allows users to set up procedural animation rigs and tools in a highly organized manner by reducing complexity. It also helps users make their procedural animation developments more modularized, shareable, and compatible.

Dong Joo Byun
Walt Disney Animation Studios

Getting Started with WebGL and Three.js

9 AM-12:15 PM
Level: Beginner

This course is an introduction to WebGL and three.js, the two most widely used APIs for creating interactive 3D graphics applications that run through a web browser. Participants will be able to run and modify examples during the presentation.

Edward Angel
University of New Mexico

Eric Haines
NVIDIA, Inc.

Dave Shreiner
Unity Technologies, Inc.

Introduction to the Vulkan Graphics API

●●▲
9 AM-12:15 PM
Level: Intermediate

Vulkan is a new generation graphics and compute API that provides high-efficiency, cross-platform access to modern GPUs used in a wide variety of devices from PCs to mobile phones and embedded platforms. This course will be of interest to anyone who writes high-performance interactive graphics programs.

Mike Bailey
Oregon State University

Story: It's Not Just for Writers... Anymore!

●◆
2-3:30 PM
Level: Beginner

We present an introductory course on the elements of classic story structure and development, which is found in the top animations and VR today. This course is visually designed specifically for technical directors, animators, and VR creators whose work makes "the story" come to life.

Craig Caldwell
University of Utah

Deep Learning: A Crash Course

●
2-5:15 PM
Level: Beginner

Deep learning is a revolutionary technique for discovering patterns from data. See how this technology works and what it offers us for computer graphics. There won't be any math. Attendees learn how to use these tools to power their own creative and practical investigations and applications.

Andrew Glassner
The Imaginary Institute

MONDAY, 13 AUGUST

An Introduction to Physics-Based Animation

●●
9 AM-12:15 PM
Level: Beginner

Physics-based animation has emerged as a core area of computer graphics finding widespread application in films, video games, and virtual reality. This course introduces students and practitioners to fundamental concepts in physics-based animation, placing an emphasis on breadth of coverage and seeking to impart practical knowledge and intuitive understanding.

Adam Bargteil
University Of Maryland, Baltimore County

Tamar Shinar
University of California, Riverside

Fundamentals of Color Science

●◆
9 AM-12:15 PM
Level: Intermediate

Color is a fundamental aspect of our visual experience. Color science is the discipline that studies the relationships between the physical and perceptual aspects of color. This course introduces students to the fundamentals of color science and its applications in graphics and imaging.

James Ferwerda
Chester F Carlson Center for Imaging Science

Dave Long
Rochester Institute of Technology

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Advances in Real-Time Rendering in Games Part 1

9 AM-12:15 PM

Level: Intermediate

This course brings state-of-the-art and production-proven rendering techniques for fast, interactive rendering of complex and engaging virtual worlds of video games. Includes speakers from the makers of several innovative game companies, such as Ubisoft, Sledgehammer Games, Activision, Lucasfilm, NVIDIA, Unity Technologies, and Epic Games.

Natalya Tatarchuk
Unity Technologies

Advances in Real-Time Rendering in Games Part 2

2 PM-5:15 PM

Level: Intermediate

This course brings state-of-the-art and production-proven rendering techniques for fast, interactive rendering of complex and engaging virtual worlds of video games. Includes speakers from the makers of several innovative game companies, such as Ubisoft, Sledgehammer Games, Activision, Lucasfilm, NVIDIA, Unity Technologies, and Epic Games.

Natalya Tatarchuk
Unity Technologies

Applications of Vision Science to Virtual and Augmented Reality

◆▲

2 PM-5:15 PM

Level: Intermediate

An understanding of vision science is vital in designing technology and applications for future mixed-reality HMDs. Our course provides an overview of the impact of human perception to MR applications, an introduction to human visual perception, and several case studies of using perceptual insights in improving MR experiences.

Anjul Patney
NVIDIA

Marina Zannoli
Facebook Reality Labs

JooHwan Kim
NVIDIA

Robert Konrad
Stanford University

Frank Steinicks
Universität Hamburg

Martin S. Bands
University of California, Berkeley

TUESDAY, 14 AUGUST

Introduction to DirectX Raytracing

▲

9 AM-12:15 PM

Level: Beginner

This course is an introduction to Microsoft's DirectX Raytracing API suitable for students, faculty, rendering engineers, and industry researchers. The first half focuses on ray tracing basics and incremental, open-source shader tutorials accessible for novices. The second half covers API specifics for developers integrating ray tracing into existing raster-based applications.

Chris Wyman
NVIDIA

Shawn Hargreaves
Microsoft

Peter Shirley
NVIDIA

Colin Barré-Brisebois
SEED

Realistic Rendering in Architecture and Product Visualization

◆◆

9 AM-12:15 PM

Level: Beginner

The course focuses on physically-based, realistic rendering in architectural and product visualization. The goal is to acquaint the SIGGRAPH audience with the specific technical needs in this segment and their impact on the employed rendering technology. We also highlight the differences from the technology used in the movie industry.

Jaroslav Krivánek
Charles University, Prague, Render Legion

Ondřej Karlik
Render Legion

Vladimir Koylazov
Chaos Group

Henrik W. Jensen
Luxion

Thomas Ludwig
Glare Technologies

Christophe Chevallier
Norm Li

Color in Advanced Displays: HDR, OLED, AR & VR

●▲

10:45 AM-12:15 PM

Level: Beginner

This course addresses color and tone reproduction in advanced displays, including HDR, OLED, and HMDs. Display types, including emissive, light-filtering, and projection displays; characteristics such as color gamut, dynamic range, and EOTF; and viewing environment will be discussed. Attendees should have a basic understanding of color perception.

Michael Murdoch
Munsell Color Science Laboratory

Digital Typography Rendering

◆◆

3:45-5:15 PM

Level: Intermediate

This course is an introduction to digital typography rendering, providing key concepts of typography as well as introducing several computer graphics techniques to render text, from the oldest and most common techniques (texture based) to the latest methods taking full advantage of shaders with quasi flawless rendering.

Nicolas Rougier
Inria

Behdad Esfahbod
Google

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WEDNESDAY, 15 AUGUST

3D User Interfaces for Virtual Reality and Games: 3D Selection, Manipulation, and Spatial Navigation

● ● ▲

9 AM-12:15 PM

Level: Intermediate

By participating in two consecutive and logically interlinked sessions covering diverse 3D selection/manipulation and spatial navigation topics, participants will acquire necessary knowledge and skills to design, develop, and validate 3D interfaces and techniques for virtual reality and gaming systems.

Bernhard E. Riecke
Simon Fraser University

Joseph LaViola Jr.
University of Central Florida, Brown University

Ernst Kruijff
Bonn-Rhein-Sieg University, Simon Fraser University

Monte Carlo Methods for Physically Based Volume Rendering

■ ●

9 AM-12:15 PM

Level: Advanced

This course surveys methods that utilize Monte Carlo integration to simulate light transport in scenes with participating media. The course is an extension of a Eurographics 2018 state-of-the-art report and expands on the details of individual techniques, acceleration data structures, and other insights relevant to CG practitioners.

Jan Novák
Disney Research

Iliyan Georgiev
Solid Angle

Johannes Hanika
Karlsruhe Institute of Technology

Jaroslav Křivánek
Charles University

Wojciech Jarosz
Dartmouth College

Pathtracing in Production

■

2-5:15 PM

Level: Advanced

This course offers a brief introduction to Monte Carlo path tracing for photo-realistic image synthesis followed by a practical perspective on existing algorithms and their performance as well as essential tricks used in the challenging daily work of rendering professionals. The speakers cover diverse backgrounds such as animation and VFX.

Johannes Hanika
Weta Digital, KIT

Luca Fascione
Weta Digital

Rob Pieke
MPC

Manuel Gamito
Framestore

Christophe Hery
Ryusuke Villemin
Pixar Animation Studios

Luke Emrose
Animal Logic

André Mazzone
Industrial Light & Magic

THURSDAY, 16 AUGUST

Moving Mobile Graphics

● ▲

9 AM-12:15 PM

Level: Intermediate

A half-day course providing a technical introduction to mobile graphics and mobile XR, spanning the hardware-software spectrum and exploring the state of the art with leading practitioners. We look at the impact of XR, quantified best practices in real-time rendering and computer vision research on mobile devices.

Sam Martin
Arm

Andrew Garrard
Samsung SRUK

Rob VanReenen
Qualcomm

Hans-Kristian Arntzen
Arm

Victor Prisacariu
Oxford University

Felipe Lira
Unity

Jiwen Cai
Google

Topics in Real-time Animation

■ ●

9 AM-12:15 PM

Level: Intermediate

Animation in games and real-time applications presents a frontier of technical challenges as we advance toward higher fidelity and more believable performances and interactivity. In this area we continue to see new advances and discover best practices to empower artists to efficiently craft the highest quality animation content.

David Hunt
Unity

Richard Lico
Polyarc

Michael Buttner
Unity

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Cage-Based Performance Capture



2-3:30 PM

Level: Intermediate

This course addresses techniques to achieve performance capture using cage-based shapes in motion. We define cage-based performance capture as the non-invasive process of capturing non-rigid surface of actors from multi-view in the form of sparse control deformation handles trajectories and a laser-scanned template shape.

Yann Savoye
Robert Gordon University

Machine Learning and Rendering



2-5:15 PM

Level: Advanced

Machine learning recently enabled dramatic improvements in both real-time and offline rendering. We review the principles and their relations to rendering. Besides fundamentals like the identity of reinforcement learning and the rendering equation, we cover efficient solutions to light transport simulation, participating media, noise removal, and future directions of research.

Alexander Keller
NVIDIA

Jaroslav Křivánek
Charles University

Jan Novák
Disney Research

Anton Kaplanyan
Oculus Research

Marco Salvi
NVIDIA

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The Educator's Forum includes curated and juried content specifically targeted to educators from K-12, undergraduate, and graduate programs. The forum is devoted entirely to content for educators because education is a tremendously important part of the total SIGGRAPH experience.



MONDAY, 13 AUGUST

Educator's Forum Education Committee Welcome

8:30-9 AM

Educator's Forum Panel: FuturePrep – Industry Views on Education

9-10:30 AM

A cross-section of industry representatives from diverse sub-disciplines in computer graphics and interactive techniques discuss preparation, training, and attributes students need to enter the workforce. Examining both short- and long-term needs, the panelists will step back and look at trends and changes that have taken place and may take place.

Glenn Goldman
New Jersey Institute of Technology

Nathan Carr
Adobe Research

Roula Lainas
Zoic Studios

Brenna MacLean
EA Vancouver

Derek Ng-Cummings
Kabam

Javier Romero
Ilion Animation Studios

Educator's Forum Groovy Graphic Assignments I

10:45 AM-12:15 PM

Boids: Learning Vector Arithmetic Through Animation

Boids is an excellent example of emergent behavior. Coding some simple rules creates complex behavior. The groovy graphics assignment consolidates students' learning of C++, OpenGL, GLM, and vector arithmetic. Students also learn about the careful balances that must be made to ensure a simulation behaves in a realistic way.

Neil A. Dodgson
Victoria University of Wellington

Real-Time Rocks: Shader-Based Labradorite

Great assignments in computer graphics rock! Mining ideas for learning graphics, representing something as visually complex as labradorite in GLSL can be unearthed as a gem of an assignment, and one can learn a fragment of shading while procedurally chipping away at the assignment.

Eric Patterson
Jessica Baron
Clemson University

A Bouncing Ball Game for First-Year Computer Graphics

A bouncing ball game is a great way to grab students' attention early in a computer graphics course. This Groovy Graphics assignment is accessible to any student with basic programming and high school algebra, while teaching some basics of animation, simulation, and data management.

Neil A. Dodgson
Victoria University of Wellington

Miscellany Drawer

The Miscellany Drawer is an introductory project for learning modeling in 3D software for CGI animation that incorporates collaboration and 3D printing.

Richard Lewis
Middle Tennessee State University

Educator's Forum Groovy Graphic Assignments II

3:45 PM-5:15 PM

Walking Through a Maze

The core of the assignment is to create a maze that can be walked through via the mouse or other interactive tools. The maze starts with a 2D maze in which the walls are then extruded. The project combines modeling, geometry, transformations, and interaction. It also allows for a multitude of extensions.

Edward Angel
University of New Mexico

Hybrid Creature Project

This groovy assignment is actually a multi-staged assignment going from concept through creation to animated presentation of a hybrid creature that could plausibly exist on Earth. Each stage has its own challenges and learning goals and, as such, could be broken out to be standalone assignments in their own rights.

Dave Mauriello
Drexel University

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Teapot Rendering Competition

Teapot Rendering Competition is the final assignment of the "Ray Tracing for Graphics" course at the University of Utah. In this course, students develop their own renderers using ray tracing. This final assignment gives students a chance to explore the kind of visually appealing images they can produce with their renderers.

Cem Yuksel
University of Utah

Ray-Traced Transmission

This Groovy Graphics assignment introduces transmissive rays to a basic reflective ray tracer.

Andrew Duchowski
Clemson University

TUESDAY, 14 AUGUST

Educator's Forum Education Committee Welcome

●
8:30 AM-9 AM

Educator's Forum Talks: VR/AR in Education 9 AM-10:30 AM

Creating Compelling Virtual Reality and Interactive Content for Higher Education

How does Carnegie Mellon University integrate immersive technologies for the humanities, including the process for building up a library of unique content? Professor Vituccio and team will discuss challenges they faced during this process, what worked in production, and the future of immersive technology in higher education.

Jaehee Cho
Stitchbridge, Carnegie Mellon University
Ralph Vituccio
Carnegie Mellon University

Storytelling for Volumetric VR

The next upcoming thing in the world of virtual reality is Volumetric VR. Sönke Kirchof, CEO and founder of reallifefilm international, examines the aspects of storytelling for Volumetric VR with its opportunities and limitations. He uses examples from the last productions, an adaptation of Goethe's sorcerer's apprentice.

Sönke Kirchof
Reallifefilm International GmbH

VFX to Teach Religion? Learning from Immersive Media

As Generation X shifts to millennials, there is a growing need to adjust the way we teach. Utilizing modern technology, we continue to explore various types of immersive media to teach religion. Our in-house VFX Team is the perfect puzzle piece that pushes our new teaching methods.

Tucker Dansie
Doug Stewart
LDS Motion Picture Studio

Real-Time Motion Capture for Performing Arts and Stage

How effectively can software engineers and artists work together to create a real-time CG for performing arts on stage? We answer that with ISSv2/OpenISS and a possible live demo.

Serguei Mokhov
Amandeep Kaur
Mehak Talwar
Keerthana Gudavalli
Miao Song
Sudhir Mudur
Concordia University

Educator's Forum Talks: SIGCSE Reprise 10:45 AM-12:15 PM

Thinking Seriously About Game Design

We report on our experiences teaching game development at two colleges at a public university. We discuss the merits of using serious games as a focus in game programming, including the benefits for students without a strong background in gaming. We also showcase some of our student serious games projects.

Deborah Kletenik
Brooklyn College, City University of New York
Deborah Sturm
College of Staten Island, City University of New York

Brain-Computer Interface for All

This talk highlights our recent experiences introducing students to basic brain-computer interface (BCI) application development using NeuroBlock. Neuroblock is a visual programming environment that allows users to build BCI applications driven by electroencephalography (EEG) data.

Chris Crawford
University of Alabama
Christina Gardner-McCune
Juan E. Gilbert
University of Florida

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

Interest Areas:

- Production & Animation
- Research & Education
- ◆ Arts & Design
- Gaming & Interactive
- ▲ New Technologies

Sound Design for Video Games: An Interdisciplinary Course for Computer Science and Art Students

The Sound Design for Video Games course was an effort to bridge the gap between computer science and art students. Overall, the goals of the course were met based on student surveys and observations. Suggestions on improvements to the course are discussed.

Richert Wang
University of California, Santa Barbara

Vincent Olivieri
University of California, Irvine

Updating Introductory Computer Science with Creative Computation

A multi-year project identified pedagogy and curriculum for computing foundations through Creative Computation with Processing. The curriculum aligns with standards at the bridge between American high school and college, supports pedagogies from lecture to inquiry-based projects, attracts diverse student populations, and suggests sustained communication between teachers and mentors is essential.

Dianna Xu
Bryn Mawr College

Ursula Wolz
Bennington College, RiverSound Solutions, LLC

Deepak Kumar
Bryn Mawr College

Ira Greenberg
Southern Methodist University

Educator's Forum Course: Bringing 3D Printing to the Classroom

2 PM-3:30 PM

Learn to identify, troubleshoot, and prevent common pitfalls that programs encounter when incorporating additive manufacturing into their curriculum. Explore curriculum-building strategies for all academic levels as well as scheduling hurdles for collaborative productions.

Lance Winkel
University of Southern California

Educator's Forum Talks: Animation in Education

3:45 PM-5:15 PM

Science Cartooning: The Ideal Couple

Hired by the University of British Columbia (UBC) Digital Emergency Medicine team, I helped create an awesome interactive graphic novel for the BC curriculum called "The Adventures of Patoos," which covers topics in physical and mental health for students in grades 4-7.

Armin Mortazavi
The University of British Columbia

El Oro: Animating Humanities Research

Animating El Oro explores animation as a means of communicating historical research arguments without prose while broadening audience potential.

Todd Fechter
Sean McComber
University of Texas at Dallas

Massive Collaborative Animation Projects – Changing Paradigms in Animation Education

MCAP (The Massive Collaborative Animation Projects) is a unique intercollegiate, multi-year, global animation production currently entering its third year of production. MCAP's purpose is to allow students and faculty from institutions around the world to join together in the creation of an original computer animation.

William Joel
Western Connecticut State University

Miho Aoki
University of Alaska Fairbanks

Johannes DeYoung
Yale University

Anna Ursyn
University of Northern Colorado

Wei-Chung Chang
National Taiwan University of Arts

Jacob Pollak
Ferris State University

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See, learn, touch, and try the state of the art in human-computer interaction and robotics. Emerging Technologies presents work from many sub-disciplines of interactive techniques, with a special emphasis on projects that explore science, high-resolution digital-cinema technologies, and interactive art-science narratives.

Emerging Technologies Hours:

Sunday, 12 August, 1:30-5:30 PM
 Monday, 13 August, 10 AM-5:30 PM
 Tuesday, 14 August, 10 AM-5:30 PM
 Wednesday, 15 August, 10 AM-5:30 PM
 Thursday, 16 August, 10 AM-3:30 PM

A Full-Color Single-Chip-DLP Projector with an Embedded 2400-fps Homography Warping Engine



This installation presents a 24-bit full-color projector that achieves over 2400-fps motion adaptability using single-chip DLP technology, which will be useful for projection mapping applications in highly dynamic scenes. The projector can be interfaced with a host PC via standard HDMI and USB without need of high computational burden.

Shingo Kagami
 Koichi Hashimoto
Tohoku University

Aerial-Biped: A New Physical Expression by the Biped Robot Using a Quadrotor



This project aims to augment the physical expression of the robot. Aerial-Biped can generate bipedal walking motions interactively according to the motion of the quadrotor by using the novel foot trajectory generation method.

Azumi Maekawa
 Ryuma Niiyama
 Shunji Yamanaka
The University of Tokyo

AutoFocals: Gaze-contingent Eyeglasses for Presbyopes



Autofocals is a hardware and software solution for presbyopes (those with an age-related loss of accommodation) that externally mimics the natural accommodation response. By combining data from eye trackers and a depth sensor and then automatically driving focus-

tunable lenses, users can refocus by simply looking around.

Nitish Padmanaban
 Robert Konrad
 Gordon Wetzstein
Stanford University

CHICAP: Low-Cost Hand Motion Capture Device Using 3D Magnetic Sensors for Manipulation of Virtual Objects



This exoskeleton motion capturing device leads you to a special interaction experience in the virtual world.

Yong-Ho Lee
 Mincheol Kim
 Hwang-Youn Kim
 Dongmyoung Lee
 Bum-Jae You
Center of Human-centered Interaction for Coexistence

CoGlobe - a Co-Located Multi Person FTVR Experience



CoGlobe uses an advanced spherical, fish-tank virtual reality multi-projector display and additional mobile displays to provide users a highly interactive, collaborative, co-located 3D mixed reality experience.

Sidney Fels
University of British Columbia
 Ian Stavness
University of Saskatchewan
 Qian Zhou
University of British Columbia
 Dylan Fafard
University of Saskatchewan

FairLift: Interaction with Mid-air Images on Water Surface



FairLift is an interaction system involving mid-air images, which are visible to the naked eye under and on a water surface. The system provides an experience for users to scoop up a mid-air image with their palms.

Yu Matsuura
The University of Electro-Communications
 Naoya Koizumi
The University of Electro-Communications
JST PRESTO

Fusion: Full Body Surrogacy for Collaborative Communication



Fusion, a novel telecollaboration system that allows two participants to share the same point of view and physical space for remote operation and collaboration. The system is designed as a backpack, and is operated in three different modes: direct collaboration, enforced body guidance, and induced body motion, enabling effective communication.

MHD Yamen Saraji
Keio University Graduate School of Media Design
 Tomoya Sasaki
 Reo Matsumura
The University of Tokyo
 Kouta Minamizawa
Keio University Graduate School of Media Design
 Masahiko Inami
The University of Tokyo

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Gum-Gum Shooting



This work is to unleash the physics limitation of a human body and inducing a sense of arm elongation in virtual reality. We mainly utilize the stimuli of touch, vision to reproduce this sensation. In addition, we designed a VR shooting game for users to enjoy the superhuman combat experience.

Hsueh-Han Wu
Tokyo Institute of Technology, Hasegawa Shoichi Laboratory

Hands-Free Augmented Reality for Vascular Interventions



We demonstrate how a virtual 3D anatomical model can be rotated, scaled, and translated using small head movements and voice commands. This enables easy hands-free manipulation by a physician during a vascular intervention—a type of minimally invasive surgical procedure in which catheters and wires are guided through a patient's body.

Alon Grinshpoon
Shirin Sadri
Gabrielle Loeb
Carmine Elvezio
Samantha Siu
Steven Feiner
Columbia University

HapCube: A Tactile Actuator Providing Tangential and Normal Pseudo-Force Feedback on a Fingertip



HapCube is a small-size tactile actuator which provides tangential and normal pseudo-force feedback on user's fingertip. The tangential feedback simulates frictional force in any tangential directions, and the normal feedback simulates tactile sensations when pressing various types of button. HapCube supports user's clicking and dragging behaviors on GUIs of VR/AR.

Hwan Kim
HyeonBeom Yi
Richard Chulwoo Park
Woohun Lee
KAIST

HeadLight: Egocentric Visual Augmentation by Wearable Wide Projector



HeadLight is a wearable projector system that provides wide egocentric visual augmentation. This provides projection angle with approx. 105 deg. horizontal and 55 deg. vertical from the point of view. With HeadLight, the three-dimensional virtual space that is consistent with the physical environment is rendered in the real world.

Shunichi Kasahara
SonyCSL

Human Support Robot (HSR)

Curated Content



HSR is a compact mobile manipulator for family members in the home, providing support to improve the overall quality of life. HSR can move around the house, keep watch over family members, and fetch objects. Goal is to make HSR beneficial to all people in the near future.

Takashi Yamamoto
Hideki Kajima
Mitsunori Ohta
Koichi Ikeda
Tamaki Nishino
Toyota Motor Corporation

Andrew Custer
Yutaka Takaoka
Toyota Research Institute

LevioPole: Mid-Air Haptic Interactions Using Multirotor



LevioPole, a rod-like device that provides mid-air haptic feedback for full-body interaction in virtual reality and augmented reality. The device is constructed from two rotor units allowing portability and ease of use. These rotors generate both rotational and linear forces that can be driven according to the target application.

Tomoya Sasaki
Richard Sahala Hartanto
The University of Tokyo

Kao-Hua Liu
National Cheng Kung University

Keitarou Tsuchiya
Atsushi Hiyama
Masahiko Inami
The University of Tokyo

Make Your Own Retinal Projector: Retinal Near-Eye Displays via Metamaterials



We propose a novel design method for retinal image projection by using the metamaterial mirror (plane symmetric transfer optical system). Using this projection method, the designing of retinal projection becomes easy. It would be possible to construct an optical system that allows quick follow-up of retinal projection hardware.

Yoichi Ochiai
Kazuki Otao
Yuta Itoh
Shouki Imai
Kazuki Takazawa
Hiroyuki Osone
Atsushi Mori
Ippei Suzuki
University of Tsukuba, Pixie Dust Technologies, Inc.

Real-Time Non-Line-of-Sight Imaging



A confocal scanning technique solves the reconstruction problem of non-line-of-sight imaging to give fast and high-quality reconstructions of hidden objects.

Matthew O'Toole
David B. Lindell
Gordon Wetzstein
Stanford University

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SEER: Simulative Emotional Expression Robot



SEER (Simulative Emotional Expression Robot) is an animatronic humanoid robot that generates gaze and emotional facial expressions to improve animativity, lifelikeness, and impressiveness by the integrated design of modeling, mechanism, materials, and computing. The robot can simulate a user's movement, gaze, and facial expressions detected by a camera sensor.

Takayuki Todo
Independent

Spherical Full-Parallax Light-Field Display Using Ball of Fly-eye Mirror



We proposed an optical system design for a full-parallax spherical light-field display based on the time-division multiplexing method. The proposed system offers features that are distinct from existing systems that make it suitable for specific uses, such as a digital signage and art exhibitions.

Hiroaki Yano
Tomohiro Yendo
Kohei Matsumura
Akane Temochi
Masaki Yamauchi
Hiroaki Matsunaga
Nagaoka University of Technology

Steerable Application-Adaptive Near-Eye Displays



This augmented reality display uses interchangeable 3D printed optical components to provide content-specific accommodation support and presents high-resolution imagery in a gaze-contingent manner by implementing a lens actuation based foveation mechanism.

Kishore Rathinavel
Praneeth Chakravarthula
University of North Carolina - Chapel Hill,
NVIDIA Corporation

Kaan Aksit
Josef Spjut
Ben Boudaoud
NVIDIA Corporation

Turner Whitted
University of North Carolina - Chapel Hill,
NVIDIA Corporation

David Luebke
NVIDIA Corporation

Henry Fuchs
University of North Carolina - Chapel Hill

Taste Controller: Galvanic Chin Stimulation Enhances, Inhibits, and Creates Tastes



The purpose of our demonstration is to introduce the galvanic jaw stimulation (GJS) which is a technology used to induce, inhibit, and enhance taste sensation with electrical stimulation. In our demonstration, users will experience the taste changing without additional chemical materials.

Kazuma Aoyama
The University of Tokyo

Transcalibur: Weight Moving VR Controller for Dynamic Rendering of 2D Shape using Haptic Shape Illusion



Transcalibur is a dynamic weight moving VR controller for 2d haptic shape rendering using haptic shape illusion. This allows users to perceive the feeling of various shape in virtual space with a single controller. Our user study showed that the system succeeded in providing shape perception over a wide range.

Jotaro Shigeyama
Takeru Hashimoto
Shigeo Yoshida
Taiju Aoki
Takuji Narumi
Tomohiro Tanikawa
Michitaka Hirose
The University of Tokyo

Transmissive Mirror Device based Near-Eye Displays with Wide Field of View



We present a transmissive mirror device (TMD) based near-eye see-through displays with a wide viewing angle for augmented reality. We develop a simple see-through display that easily setup from a combination of off-the-shelf HMD and TMD. We demonstrate a prototype with a diagonal viewing angle of 100 degrees.

Kazuki Otao
Yuta Itoh
Kazuki Takazawa
Yoichi Ochiai
University of Tsukuba, Pixie Dust
Technologies, Inc.

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Verifocal: A Platform for Vision Correction and Accommodation in Head-Mounted Displays



We present a varifocal platform for head-mounted displays. This platform eliminates the vergence-accommodation conflict and corrects the user's vision by dynamically adjusting the focus inside a head-mounted display. We introduce a varifocal rendering pipeline and compare multiple varifocal optical systems for adjusting focus.

Pierre-Yves Laffont
 Ali Hasnain
 Pierre-Yves Guillemet
 Samuel Wirajaya
 Liqiang Khoo
 Teng Deng
 Jean-Charles Bazin
Lemnis Technologies

Wind-Blaster: A Wearable Propeller-based Prototype that Provides Ungrounded Force-Feedback



Using wearable propellers, Wind-Blaster allows the wearer to experience ungrounded haptic force feedback, increasing immersion in virtual environments without restricting movement.

Seungwoo Je
 Hyelip Lee
 Myung Jin Kim
 Andrea Bianchi
KAIST

VPET - Virtual Production Editing Tools

Curated Content



The work on intuitive virtual production technology at Filmakademie led to an open platform tied to existing film pipelines. The Virtual Production Editing Tools (VPET) are open-source and constantly updated on Github. We introduce an intuitive environment where augmented reality extends real sets with modifiable virtual scenes.

Simon Spielmann
 Volker Helzle
 Andreas Schuster
 Jonas Trottnow
 Kai Goetz
*Filmakademie Baden-Württemberg GmbH
 Animationsinstitut*

Patricia Rohr
*Filmakademie Baden-Württemberg GmbH
 Animationsinstitut, FMX*

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Informal presentations on new ideas that are applicable to techniques, concepts, and strategies related to the Experience Hall and Immersive Pavilion programs: Art Gallery, Emerging Technologies, Studio, Vrcade, Village and VR Theater.



SUNDAY, 12 AUGUST

Augmented Reality is Here

Sunday, 12 August, 3:45 PM-5:15 PM



BroadcastAR: A Cinematic Augmented Reality Experience

Ferenc Czuczor
Norbert Kovacs
Tamas Matuszka
Alexandra Pittiglio
INDE R&D

We AR Sight: An Open Source Augmented Reality Wearable Device to Assist Visually Impaired Individuals

Sarang Nerkar
Ambarish Gurjar
Innosapien Technologies Pvt. Ltd., Nerkar Education and Research Trust

The AI-Powered Magic Mirror: Building Immersive AR/VR Experiences with Only Webcams and Deep Learning

Paul A. Kruszewski
Thomas Jan Mahamad
wrnch

Collaborative Exploration of Urban Data in Virtual and Augmented Reality

Carmine Elvezio
Frank Ling
Jen-Shuo Liu
Columbia University

Barbara Tversky
Teachers College

Steven Feiner
Columbia University

MONDAY, 13 AUGUST

Alternative Multiviewer Visual Displays

Monday, 13 August, 3:45 PM-5:15 PM



CoGlobe: A Co-Located Multi-Person FTVR Experience

Sidney Fels
University of British Columbia

Ian Stavness
University of Saskatchewan

Qian Zhou
University of British Columbia

Dylan Fafard
University of Saskatchewan

Georg Hagemann
Andrew Wagemakers
University of British Columbia

Chris Chamberlain
University of Saskatchewan

A Full-Color Single-Chip-DLP Projector with an Embedded 2400-fps Homography Warping Engine

Shingo Kagami
Koichi Hashimoto
Tohoku University

FairLift: Interaction with Mid-air Images on Water Surface

Yu Matsuura
The University of Electro-Communications

Naoya Koizumi
The University of Electro-Communications, JST PREST

Creating Virtual Realities

Monday, 13 August, 3:45 PM-5:15 PM



AnimVR: Animation Unleashed

Dario Seyb
Milan Grajetzki
NVRMIND IVS

Joe Daniels
TinyCo Games

Creating Lifelike Reactive Characters for VR

Joaquin Ruiperez
Gonzalo Ruiperez
ESTUDIOFUTURE

Elastic Time: Voxel-Based Mixed Reality Documentary, Real-Time Volumetric Capture, and VFX

Javier Bello Ruiz
Robin Mange
IMVERSE

Demonstration of Gaze-Aware Video Streaming Solutions for Mobile VR

Pietro Lungaro
Firdose Saeik
Konrad Tollmar
Royal Institute of Technology - KTH

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TUESDAY, 14 AUGUST

Stories in Virtual Reality - Part 1

Tuesday, 14 August, 2 PM-3:30 PM



Wolves in the Walls: Chapter 1

Peter Billington
Fable Studio

Becoming Homeless: A Human Experience

Fernanda Herrera
Elise Ogle
Tobin Asher
Jeremy Bailenson
Stanford University

Scrappy VR: Creating "A Show of Kindness" in eight weeks using Tilt Brush

Jeremy Cowles
Peter Chan
Tilt Brush by Google

Space Explorers: A New Dawn

Sebastian Sylwan
Felix & Paul Studios

Technologies in Near Eye Displays

Tuesday, 14 August, 2 PM-3:30 PM



Transmissive Mirror Device Based Near-Eye Displays with Wide Field of View

Kazuki Otao
Yuta Itoh
Kazuki Takazawa
Hiroyuki Osone
Yoichi Ochiai
University of Tsukuba; Pixie Dust Technologies, Inc.

Make Your Own Retinal Projector: Retinal Near-Eye Displays via Metamaterials

Yoichi Ochiai
Kazuki Otao
Yuta Itoh
Shouki Imai
Kazuki Takazawa
Hiroyuki Osone
Atsushi Mori
Ippei Suzuki
University of Tsukuba; Pixie Dust Technologies, Inc.

Manufacturing Application-Driven Near-Eye Displays

Kaan Akşit
NVIDIA
Praneeth Chakravarthula
NVIDIA, UNC

Verifocal: A Platform for Vision Correction and Accommodation in Head-Mounted Displays

Pierre-Yves Laffont
Ali Hasnain
Pierre-Yves Guillemet
Samuel Wirajaya
Liqiang Khoo
Teng Deng
Jean-Charles Bazin
Lemnis Technologies

WEDNESDAY, 15 AUGUST

Designing for a Digital World

Wednesday, 15 August, 9 AM-10:30 AM



Immersive Previz: VR Authoring for Film Previsualisation

Quentin Galvane
INRIA
I-Sheng Lin
NCCU
Marc Christie
University of Rennes
Tsai-Yen Li
NCCU

Lightform: Procedural Effects for Projected AR

Brittany Factura
Laura LaPerche
Phil Reyneri
Brett Jones
Kevin Karsch
Lightform, Inc.

Raymarching Toolkit for Unity

Kevin Watters
Independent

Real-Time Motion Generation for Imaginary Creatures Using Hierarchical Reinforcement Learning

Keisuke Ogaki
Masayoshi Nakamura
DWANGO Co.,Ltd.

Experiencing Realities - Part 1

Wednesday, August 15th, 2 PM-3:30 PM



IKEA Immerse Interior Designer

Christopher Baumbach
Gion Tummers
Demodern GmbH

Aeronaut VR

Ken Waagner
Isobar

ELI in VR: Embodied Limbic Interaction for Piloting a Virtual Hang Glider

Kenan Bektaş
University of Zurich and ETH Zurich, ZHAW, Zurich

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Augmented Reality Task Guidance for International Space Station Stowage Operations

Hiroshi Furuya
Columbia University

Lui Wang
NASA

Carmine Elvezio
Steven Feiner
Columbia University

Let's Get Physical

Wednesday, 15 August, 2 PM-3:30 PM



Metamaterial Devices

Alexandra Ion
Patrick Baudisch
Hasso Plattner Institute, University of Potsdam

Design Engine Community Project - Generate Quick Adhoc Inventions to Explore at SIGGRAPH and in the Studio

Matthew Griffin
Lizabeth Arum
Ultimaker

PaperPrinting: A Machine for Prototyping Paper and Its Applications for Graphic Design

Wataru Date
Keio University

Yasuaki Takehi
The University of Tokyo, Keio University

Design Method of Digitally Fabricated Spring Glass Pen

Kengo Tanaka
Kohei Ogawa
Tatsuya Minagawa
Yoichi Ochiai
University of Tsukuba

Games in Multiple Realities

Wednesday, 15 August, 3:45 PM-5:15 PM



Making a Splash In VR: How We Created an Interactive Ocean for Vacation Simulator

Devin Reimer
Ben Hopkins
Graeme Borland
OwlChemistry Labs

Multiplayer Augmented Reality: the Future is Social, presented by Niantic

Diana Hu
Niniane Wang
Niantic

Museum of Symmetry

Paloma Dawkins

Augmented Reality Game with Unique Semi-Transmissive Rendering Method

Daiki Taniguchi
Akatsuki Inc.

THURSDAY, 16 AUGUST

Paddles, Swords, Rubber Arms, and Other Haptic Tools

Thursday, 16 August, 9 AM-10:30 AM



LevioPole: Mid-Air Haptic Interactions Using Multirotor

Tomoya Sasaki
The University of Tokyo

Wind-Blaster: A Wearable Propeller-Based Prototype That Provides Ungrounded Force-Feedback

Seungwoo Je
Hyelip Lee
Myung Jin Kim
Andrea Bianchi
KAIST

Transcalibur : Weight Moving VR Controller for Dynamic Rendering of 2D Shape Using Haptic Shape Illusion

Jotaro Shigeyama
Takeru Hashimoto
Shigeo Yoshida
Taiju Aoki
Takuji Narumi
Tomohiro Tanikawa
Michitaka Hirose
The University of Tokyo

Stories in Virtual Reality - Part 2

Thursday, 16 August, 9 AM-10:30 AM



Arden's Wake: Expanded - VR Technical and Artistic Challenges

Kevin Yong Qu
Penrose Studios

Experiencing Racism in VR: A 1000 Cut Journey

Courtney D. Cogburn
Dominic Cathey
Columbia University

I Am a Man: Communicating the Civil Rights Struggle Through VR

Derek Ham
NC State College of Design

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Queerskins: A Love Story

Illya Szilak
Fancy Rainbow
Cyril Tsiboulski
Cloudred Studio

Experiencing Realities - Part 2
Thursday, 16 August, 3:45 PM-5:15 PM



Chorus

Adam Rogers
Tyler Hurd
Gentle Manhands

Voyage

Sharan Shodhan
Julian Korzeniowsky
Sijia He
Na-yeon Kim
Rajeev Mukundan
Carnegie Mellon University

Sherpa: The Helping Hands of the Himalaya

Dimosthenis Gkantzos
Christian Greitmann
Martin Koegel
Filmakademie Baden-Wuerttemberg GmbH

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SIGGRAPH 2018 Panels offer a space where discussion and debate on important topics in computer graphics and interactive techniques can freely flow.

Full Conference Platinum and Full Conference Access registration allows attendees access to all SIGGRAPH 2018 Panels.

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



SUNDAY, 12 AUGUST

Color Mavens Advise on Digital Media Creation and Tools



Sunday, 12 August, 10:45 AM-12:15 PM

Designing and capturing color schemes for digital media composition are important steps in the creation pipeline. A group of color experts, "Color Mavens", from X-Rite/Pantone, Adobe Systems, Rochester Institute of Technology, and Pixar Animation Studios to highlight their methods with discussion about optimal colorization approaches to follow.

Moderator

Theresa-Marie Rhyne
Consultant

Panelists

Nicholas Bazarian
X-Rite/Pantone

Jose Echevarria
Adobe Systems

Michael Murdoch
Rochester Institute of Technology

Danielle Feinberg
Pixar Animation Studios

Interactive Dance Club '98 - a Legend in the Making!



Sunday, 12 August, 3:45-5:15 PM

IDC '98 brought together the SIGGRAPH community in a grand social experiment. Attendees gathered to participate in creating a dynamic confluence of music, computer graphics and lighting. This panel discusses IDC's conceptualization, visual and technology development and ground rules for multi-participatory experiences - all while examining current day applications.

Moderator

Judith Crow
SideFX

Panelists

David Bianciardi
AV&C

Greg Hermanovic
Derivative, Inc.

Ryan Ulyate

Design and Implementation of Modern Production Renderers



Sunday, 12 August, 3:45-5:15 PM

A discussion among developers of five of the most significant production renderers for film, going into technical detail about the design goals and implementations of their renderers and comparing their respective designs.

Moderator

Matt Pharr
Google

Panelists

Per Christensen
Pixar

Brent Burley
Walt Disney Animation Studios

Luca Fascione
Weta Digital

Christopher Kulla
Sony Pictures Imageworks

Marcos Fajardo
Solid Angle

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MONDAY, 13 AUGUST

VR@50: Celebrating Ivan Sutherland's 1968 Head-Mounted 3D Display System



Monday, 13 August, 10:45 AM-12:15 PM

This panel celebrates the first fully functioning 3D AR/VR system: real-time, see-through, stereo, perspective display; and two different head trackers: ultrasonic and mechanical (the "Sword of Damocles"). Ivan Sutherland ("father of Computer Graphics"), and team members Charles Seitz, Robert Sproull, Quintin Foster present. Graphics pioneer Fred Brooks reviews the system's impact and legacy.

Moderator

Henry Fuchs
University of North Carolina, Chapel Hill

Panelists

- Ivan E. Sutherland
Portland State University
- Robert F. Sproull
University of Massachusetts Amherst
- Charles L. Seitz
Consultant
- Frederick P. Brooks
University of North Carolina, Chapel Hill
- H. Quintin Foster Jr.
Retired Engineering Manager

TUESDAY, 14 AUGUST

Future Artificial Intelligence and Deep Learning Tools for VFX



Tuesday, 14 August, 2-3:30 PM

This panel discusses trends and prospects for using AI tools in the VFX pipeline. Panel experts talk about the current AI tools that work in the industry, give answers to questions and their vision of their technology development.

Moderator

Dmytro Korolov
MPC

Panelists

- Jean-Charles Bazin
Korea Advanced Institute of Science and Technology
- Doug Roble
Digital Domain
- Rob Pieke
MPC
- Renaldas Zioma
Unity Technologies
- Jeff Kember
Google
- David Luebke
NVIDIA Corporation

WEDNESDAY, 15 AUGUST

The Present and Future of Real-Time Graphics for Film



Wednesday, 15 August, 2-3:30 PM

How are real-time graphics used in the movie industry today? How can they be used in the coming years? This panel brings together voices representing various areas of expertise to provide information about how real-time graphics are being used and how they foresee the future of real-time graphics in film.

Moderator

Pol Jeremias-Vila
Pixar Animation Studios

Kim Libreri
Epic Games

Guido Quaroni
Pixar Animation Studios

Natalya Tatarchuk
Unity Technologies

Damien Fagnou
Technicolor Production Services

Visual Effects in the Age of the Cloud



Wednesday, 15 August, 3:45-5:15 PM

The Visual Effects industry is presently grappling with how to best take advantage of cloud computing, a technology which has transformed the practice of software in many industries. This panel discusses cloud computing in Visual Effects, how it is trending, and how it changes production.

Moderator

Mark Wiebe
Amazon

Panelists

Jason Fotter
FuseFX

Dan Wexler
Zorroa

Panos Zompolas
Redshift

Phil Peterson
Techniqueology

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

Interest Areas:

- Production & Animation
- Research & Education
- Arts & Design
- Gaming & Interactive
- New Technologies

THURSDAY, 16 AUGUST

The Past, Present and Future of the Video Game Cinematic



Thursday, 16 August, 2-3:30 PM

Top creatives in video game cinematics will discuss the processes and technology that makes their work possible, along with the creative and economic context that underpins this work. They will reveal the “who”, “what”, and “why” of cinematics, shedding light on a genre that is often applauded but rarely analyzed.

Moderator

Stuart Aitken
Axis Studios

Panelists

Franck Balson
Blur Studio

Phillip Hillenbrand
Blizzard Entertainment

Thomas Vu
Riot Games

Matthew Ward
BUNGIE

Jakub Jablonski
Platige Image

Alex S. Rabb
Digic Pictures

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SIGGRAPH 2018 hosts Production Sessions, where the world's most talented production teams share their processes and techniques from some of the most exciting content in computer animation, VFX, games and VR. Following each presentation, attendees ask questions about the challenges and issues associated with complex productions.



PRODUCTION GALLERY



Sunday, 12 August, 1:30-5:30 PM

Monday, 13 August, 10 AM-5:30 PM

Tuesday, 14 August, 10 AM-5:30 PM

Wednesday, 15 August, 10 AM-5:30 PM

Thursday, 16 August, 10 AM-3:30 PM

This one-of-a-kind exhibit recognizes the art, processes, and physical materials involved in the creation of major studio projects — not just the final piece on screen. The gallery features artwork, props, and more from recent film, VR, or game productions for an exclusive behind-the-scenes look at some of Hollywood's biggest blockbusters.

"JURASSIC PARK" 25TH ANNIVERSARY SCREENING (WITH STEVE "SPAZ" WILLIAMS INTRODUCTION)



Sunday, 12 August, 8:30-11:15 PM

We're celebrating 25 years of one of a handful of films that can say it changed movies forever: "Jurassic Park" (1993). Join us for this special screening with an introduction from Steve "Spaz" Williams, a legendary pioneer in computer graphics who helped develop Jurassic's infamous dinosaurs — the first-ever digital animals! Williams' impressive career spans several other landmark movie moments, including the Oscar-nominated face contortion in "The Mask" and Oscar-winning "Terminator 2" (first CG main character) and "The Abyss" (first "soft surface" CG character).

DNEG, Framestore, and MPC Present: The Visual Effects of "Blade Runner 2049"



Monday, 13 August, 10:45 AM-12:15 PM

35 years after the release of the original "Blade Runner" film, the visual effects teams behind "Blade Runner 2049" were tasked with the challenge of crafting a dystopian world in the next phase of one of the most-beloved sci-fi films of all time. Set 30 years after the first film, the sequel follows a new blade runner as he unearths a long-buried secret that has the potential to plunge what's left of society into chaos. From the creation of the LA cityscapes, Las Vegas, and Trash Mesa environments to the development of a holographic Joi and the return of Rachael, join the filmmakers from DNEG, Framestore, and MPC as they discuss their Academy-Award winning work that paid tribute to the original picture while creating a film of the future.

Axel Akesson
MPC

Richard Hoover
Framestore

Chris McLaughlin
DNEG

"Wreck-It Ralph 2": Visualizing the Internet



Tuesday, 14 August, 10:45 AM-12:15 PM

In "Ralph Breaks the Internet: Wreck-It Ralph 2," Vanellope von Shweetz and Wreck-It Ralph leave Litwak's video arcade behind, venturing into the uncharted, expansive and thrilling world of the internet on a quest to save Vanellope's video game. Building the metropolis of the internet was no small feat: its smallest buildings are the size of the Empire State Building, and tens of thousands of dynamic, digital signs can be seen in one city shot. The world then needed to be populated with characters, ranging from the everyday citizens of the internet - netizens - to service workers and algorithms who run the world wide web. Throughout the making of the film, the production team was challenged to push the boundaries both artistically and technically in visualizing a world that is ever-changing and seemingly endless - a concept as familiar as the internet executed in a way that has never been seen before.

Ernest Petti
Larry Wu
David Komorowski
Walt Disney Animation Studios

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“Game of Thrones” Season 7: Orchestrating Sea Battles and Blowing Up a Big Wall

Tuesday, 14 August, 2-3:30 PM

In this production session, we will share our story of working on the legendary show, “Game of Thrones”, since the series’ fourth season, detailing the learnings and knowledge we have gained from our multi-season experience on the groundbreaking show. We will go in depth on two of season 7’s most intense sequences, starting from the concept art and working through the processes that got us to the final shots.

Our long-term relationship with the filmmakers helped us anticipate their hands-on approach for art directing, which we took into consideration when planning for the Sea Battle scene in episode two and the dramatic fall of The Wall in the season finale.

At the session, we will share how we prepared to give the filmmakers freedom to play with the art direction, including how we set up a master scene file for the Sea Battle for this purpose. This nighttime battle contained a plethora of challenges, from simulations, to CG environments, the CG ocean, and CG background ships mixed with compositing fire elements, which we will look at in the session.

For the season’s climatic finale, we created the first full view of The Wall at Eastwatch-by-the-Sea and then blew it to pieces, earning the 2018 VES Award for Outstanding Effects Simulations in an Episode. At the session, we will discuss the process of creating a flexible asset -- The Wall -- allowing for various possibilities for the art direction and simulation. We will also present the techniques we used to score the wall up to its dramatic collapse.

Thomas Hullin
Isabelle Langlois
Rodeo FX Inc.

LAIKA’s “Missing Link”: Raising the VFX Bar

Tuesday, 14 August, 3:45-5:15 PM

LAIKA is a studio whose mission is to realize the potential of stop-motion animation by fusing old-school artisan-ship with cutting-edge technology. This production session will highlight the work done by LAIKA’s in-house visual effects team on the studio’s fifth film, “Missing Link” (in theaters spring 2019).

During this session, the LAIKA team will highlight its unique production pipeline and how its digital efforts were created in concert with the puppet-makers and set builders at the studio. The team will discuss their adoption of RenderMan’s RIS and how LAIKA was able to leverage new workflows to quadruple their output of photo-real, design-intensive background puppets, props and environments for the film.

“Missing Link” required a great deal of collaboration between the studio’s on-set camera team and visual effects. This session will also underscore the challenges faced when fusing boundless digital scenes with camera setups dictated by an animator’s ability to reach a puppet. The team will show examples of how camera data was shared, scaled and augmented during the film’s production.

Eric Wachtman
Rick Sevy
Michael Cordova
LAIKA

Three Keys to Creating the World of “Ready Player One” - Visual Effects & Virtual Production

Wednesday, 15 August, 10:45 AM-12:15 PM

In this deep dive into Steven Spielberg’s “Ready Player One,” teams from Industrial Light & Magic and Digital Domain will showcase the breakthrough virtual production techniques and technology deployed for the film and the visual effects involved in bringing the film’s dystopian vision of life in 2045 to the screen. In addition, the teams will delve into the immense artistic and technical challenges of designing, building, and animating every aspect of the expansive virtual universe known as the OASIS.

Grady Cofer
David Shirk
David Dally
Industrial Light & Magic

Jose Astacio
Digital Domain

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“The Incredibles 2”: Suit Up, It Might Get Weird!



Wednesday, 15 August, 2-3:30 PM

In a conversation that will not only span multiple disciplines, but also multiple years of technological advancement at Pixar, the team behind “Incredibles 2” - many of whom also worked on the first film - will compare and contrast the filmmaking process then and now. With a sequel, there’s always the challenge of making a film true to the original, yet different in every detail. In building the world of “Incredibles 2,” the team tackled one of the most technically daunting films in Pixar’s canon, all while needing it to hue to the familiar tone established by the first film. Hear from this supergroup as they examine how they used the past to inform the present and, incredibly, achieved the near-impossible.

- Mahyar Abousaeedi
- Beth Albright
- Evan Bonifacio
- Chris Burrows
- Gordon Cameron
- Ralph Eggleston
- Nathan Fariss
- Fran Kalal
- Paul Kanyuk
- Ted Mathot
- Philip Metschan
- Tom Nettleship
- Bret Parker
- Darwyn Peachey
- Reid Sandros
- Rick Sayre
- Stephen Schaffer
- Erik Smitt
- Esdras Varagnolo
- Bill Watral
- Bill Wise
- Pixar

Generations of Houdini in Film



Wednesday, 15 August, 3:45-5:15 PM

For more than 20 years, Houdini artists have been pushing boundaries in films, TV and games. This session features some of the best film professionals whose careers span from the early days to more recent projects.

- Ian Failes
VFX Blog
- Rob Bredow
Industrial Light & Magic
- Matt Estela
UTS Animal Logic Academy
- Mark Hodgkins
DNEG
- Michael Kaschalk
Walt Disney Animation Studios
- Andy Hayes
Framestore

“Crow: The Legend” - Bringing a Native American Legend into VR



Thursday, 16 August, 10:45 AM-12:15 PM

Inspired by a Native American myth, Baobab Studio’s “Crow: The Legend” tells a story with themes of diversity, inclusion, sacrifice and self-acceptance. Director Eric Darnell and the team behind the Emmy-winning VR animations “Invasion!” and “Asteroids!,” share insights from their most ambitious VR project to date.

In this production session, we will answer the following questions and more as well as showcase our work: What are the differences between creating a VR animated experience versus a 2D animated film? How do we blend original music, interactivity with a VR storybook visual style to capture the mythical quality from the Native American folktale? How do we balance audience participation against focused narrative? As the audience plays the role of the “Spirit of the Seasons”, how does the viewer interact with and affect change on the characters and their world? What creative and technical challenges arise by integrating user agency and interactivity into the narrative? How do we direct the viewer’s eyes when we no longer have a frame? How do storyboarding, staging, and animation change when the viewer can look anywhere and be part of the story?

- Larry Cutler
- Kane Lee
- Scott Peterson
Baobab Studios
- Sarah Eagle Heart
Native Americans in Philanthropy

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Making the Kessel Run in Less Than 12 Parsecs - The VFX of "Solo: A Star Wars Story"



Thursday, 16 August, 2-3:30 PM

Join the visual effects team as they take you behind the scenes on one of 2018's biggest films. The team will showcase the innovative shooting techniques developed for the film and the unique collaboration with Director Ron Howard that allowed this chapter in the Star Wars universe to be brought to the screen. The team will also pull back the curtain on how they took old school methodologies and combined them with cutting edge technologies to create the film's groundbreaking visual effects work.

Rob Bredow
Patrick Tubach
Greg Kegel
Industrial Light & Magic

Joseph Kasparian
Hybride

The Making of Marvel Studios' "Avengers: Infinity War"



Thursday, 16 August, 3:45-5:15 pm

Four years after the events of "Guardians of the Galaxy Vol. 2," the Avengers have been torn apart following the events of "Captain America: Civil War". When Thanos arrives on Earth to collect the Infinity Stones for a gauntlet that will allow him to bend reality to his will, the Avengers must join forces with the Guardians of the Galaxy to stop him. Marvel Studios, ILM, Weta Digital, and Digital Domain take SIGGRAPH audiences through their VFX journey as they created some of the movie's most heart-stopping moments.

Victoria Alonso
Dan DeLeeuw
Jen Underdahl
Swen Gillberg
Marvel Studios

Kelly Port
Digital Domain

Russell Earl
Industrial Light & Magic

Matt Aitken
Weta Digital

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Tuesday, 14 August 6-7:45 PM

Real-Time Live! showcases the latest trends and most innovative interactive techniques, presented and deconstructed live by their creators.

Best Real-Time Graphics and Interactivity Award

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

Deep Learning-Based Photoreal Avatars for Online Virtual Worlds in iOS



A deep learning-based technology for generating photo-realistic 3D avatars with dynamic facial textures from a single input image is presented. Real-time performance-driven animations and renderings are demonstrated on an iPhone X and we show how these avatars can be integrated into compelling virtual worlds and used for 3D chats.

Koki Nagano
Pinscreen, USC Institute for Creative Technologies

Jaewoo Seo
Kyle San
Aaron Hong
Mclean Goldwhite
Pinscreen

Jun Xing
USC/ICT

Stuti Rastogi
Pinscreen, USC

Jiale Kuang
Aviral Agarwal
Hanwei Kung
Caleb Arthur
Carrie Sun
Stephen Chen
Jens Fursund
Pinscreen

Hao Li
Pinscreen, USC

Democratising Mocap: Real-Time Full-Performance Motion Capture with an iPhone X, Xsens, and Maya



Kite & Lighting reveals how Xsens inertial mocap technology, used in tandem with an iPhone X, can be used for full body and facial performance capture – wirelessly and without the need for a mocap volume – with the results live-streamed to Autodesk Maya in real time.

Cory Strassberger
Kite & Lighting

Remco Sikkema
Xsens

Gastro Ex: Real-Time Interactive Fluids and Soft Tissues on Mobile and VR



Enter Gastro Ex for on smartphones and VR. The entire environment surrounding you is interactable and "squishy," featuring advanced soft-body physics and 3D interactive fluid dynamics. Grab anything. Cut anything. Inject anywhere. Unleash argon plasma. Enjoy emergent surgical gameplay, rendered with breathtaking real-time GI and subsurface scattering.

Sam Glassenberg
Matthew Yaeger
Andy Saia
Steve Kane
Level Ex

IKEA Immerse Interior Designer



IKEA Immerse is available in select IKEA stores in Germany. This application enables consumers to create, experience, and share their own configurations in a virtual living and kitchen room set. With seamless e-commerce integration, a high level of detail, and real-time interaction, the VR experience represents an engaging, valuable touch-point.

Tobias Soffner
Christopher Baumbach
Demodern GmbH

Mixed Reality 360 Live: Live Blending of Virtual Objects into 360° Streamed Video



An interactive mixed reality system using live streamed 360° panoramic videos is presented. A live demo for real-time image-based lighting, light detection, mixed reality rendering, and composition of 3D objects into a live-streamed 360° video of a real-world environment with dynamically changing real-world lights is shown.

Taehyun Rhee
Andrew Chalmers
Ian Loh
Ben Allen
Lohit Petikam
CMIC, Victoria University of Wellington, DreamFlux

Stephen Thompson
Tom Revill
CMIC, Victoria University of Wellington

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Oats Studios VFX Workflow for Real-Time Production with Photogrammetry, Alembic, and Unity



Come see how Oats Studios modified their traditional VFX pipeline to create the breakthrough real-time shorts ADAM Chapter 2 & 3 using Photogrammetry, Alembic, and the Unity real-time engine.

Chris Harvey
Mike Blomkamp
Oats Studios

Isabelle Riva
Unity Technologies

Neill Blomkamp
Oats Studios

The Power of Real-Time Collaborative Filmmaking



PocketStudio is designed to allow filmmakers to easily create, play, and stream 3D animation sequences in real time using real-time collaborative editing, a unified workflow, and other real-time technologies, such as augmented reality.

Jean-Colas Prunier
Armelle Bauer
Yvain Raeymaekers
Stephane Tayeb
PocketStudio

Virtual Production in 'Book of the Dead': Technicolor's Genesis Platform, Powered by Unity



We demonstrate a Unity-powered virtual production platform that pushes the boundaries of real-time technologies to empower filmmakers with full multi-user collaboration and live manipulation of whole environments and characters. Special attention is dedicated to high-quality real-time graphics, as evidenced by Unity's "Book of the Dead."

Francesco Giordana
Moving Picture Company

Veselin Efremov
Unity Technologies

Gael Sourimant
Technicolor R&I

Silvia Rasheva
Unity Technologies

Callum James
Moving Picture Company

Wonder Painter: Turn Anything into Animate!



Xiaoxiaoni's unique patented Wonder Painter™ technology turns anything into a vivid cartoon animation at a click of your camera. First, draw something, make something (clay, origami, building blocks, etc.), or find something (toy, picture book, etc.). Then take a photo of it and see it come alive!

Xiang Cao
Xiaoxiaoni Creative Technologies

The 'Reflections' Ray-Tracing Demo Presented in Real Time and Captured Live Using Virtual Production Techniques



Epic Games, Nvidia, and ILMxLAB would like to present 2018's GDC demo, "Reflections," set in the "Star Wars" universe. In addition, we will record a character performance live using virtual production/virtual reality directly into Unreal Engine Sequencer, and then play the demo with real-time ray tracing live at 24fps.

Gavin Moran
Epic Games

Mohen Leo
ILMxLAB

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SIGGRAPH has long been a pioneer in computer graphics research and emerging technologies. SIGGRAPH Next continues that tradition by offering a series of plenary speakers on topics that speak to “What’s Next” for the industry.



The Future’s Waiting

Monday, 13 August, 8 AM-8:45 AM

We know that change generally takes five to 10 years at best to become realized within society. With that being true, predictors were in place five years ago that could have given us insight into what our world might look like today. This talk discusses current trends in place today that might tell us what the future could look like in five to 10 years. The future is waiting.

*Bob Nicoll
Blizzard Entertainment*

*Dylan Hendricks
ITF (Institute for the Future)*

Connections: The Intersection of Graphics and Medicine

Tuesday, 14 August, 8 AM-8:45 AM

As CG reaches a cusp where we can mimic visual reality, we are challenged to use it for solving complex analytical problems in the world around us. Intersecting deep learning and artificial intelligence with advanced graphics provides groundbreaking new approaches. Specifically in the field of Biomed, this session discusses examples ranging from computer vision in microscopy to computer learning to recognize cancer cell anomalies in a pathology dashboard of the future.

*Daniel Szecket
Michel Nederlof
Quantitative Imaging Systems (Qi)*

NextGen Education Models

Wednesday, 15 August, 8-8:45 AM

With decades of experience in developing programs to help make math, science and engineering education more inspiring and relevant for middle and high school students, Tony is at the forefront of inventing new educational models. From the Young Makers Program to Pixar in a Box, in partnership with Khan Academy, creating hands on problem solvers and original thinkers is key to the foundation of his initiatives, as well as the future of all educational models.

*Tony DeRose
Pixar Research Group Emeritus*

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Create works of art, items of functionality, or objects of novelty. If you can imagine it, the SIGGRAPH Studio has the resources to help you make it a reality. Attend Studio Workshops that educate attendees on state-of-the-art processes and workflow pipelines.

Studio Hours:

Sunday, 12 August, 1:30-5:30 PM
 Monday, 13 August, 10 AM-5:30 PM
 Tuesday, 14 August, 10 AM-5:30 PM
 Wednesday, 15 August, 10 AM-5:30 PM
 Thursday, 16 August, 10 AM-3:30 PM

Building a Feedback Loop Between Electrical Stimulation and Percussion Learning



We apply electrical muscle stimulation (EMS) to the learning of rhythm. By the movement of muscles stimulated using EMS, users are able to acquire what kind of arms and legs to move at what timing and play the rhythm of drums that require the simultaneous movement of the limbs.

Ayaka Ebisu
 Satoshi Hashizume
Digital Nature Group, University of Tsukuba

Yoichi Ochiai
Digital Nature Group, University of Tsukuba Pixie Dust Technologies, Inc.

Design Engine Community Project: Generate Quick Adhoc Inventions to Explore at SIGGRAPH and in the Studio



We're hosting a brand new SIGGRAPH edition of "The Design Engine" card game, a constantly revolving series of design challenges hosted within the Studio. Participants can join for a short startup round, or stick around to design and develop their projects using the tools available in the SIGGRAPH Studio Workshop.

Matthew Griffin
 Lizabeth Arum
Ultimaker

Design Method of Digitally Fabricated Spring Glass Pen



We present a method to create a pen that suits people's preferences easily by using a 3D printer. Elasticity can be reproduced by giving the spring structure, and a capillary phenomenon occurs by applying a fine gap to the pen tip.

Kengo Tanaka
 Kohei Ogawa
 Tatsuya Minagawa
 Yoichi Ochiai
University of Tsukuba Digital Nature Group

Immersive Previz: VR Authoring for Film Previsualisation



One Man Movie is a VR authoring system that enables the crafting of filmic sequences with no prior knowledge in 3D animation. The system is designed to reflect the traditional creative process in film pre-production through stages like scene layout, animation of characters, placement of cameras, and editing.

Quentin Galvane
INRIA Rennes
 I-Sheng Lin
NCCU
 Marc Christie
IRISA/INRIA Rennes Bretagne
 Tsai-Yen Li
NCCU

Lightform: Procedural Effects for Projected AR



Lightform LF1 is a hardware device that enables fast and convenient projected AR for any projector. Through a novel visible structured light technique, the LF1 allows users to apply procedural effects automatically and quickly create projected AR content.

Kevin Karsch
Lightform, Inc.

Lightwork: Infinity Alley



Lightwork is an open source application that simplifies the mapping of addressable LEDs in 2D and 3D spaces. Infinity Alley is an interactive and volumetric LED environment where participants can learn how to use Lightwork to map LEDs to create custom visualizations.

Derek Gaw
 Tim Rolls
 Edward Budiman
 Paul Reimer
MakerLabs

Metamaterial Devices



Traditionally, metamaterials were understood as materials with deformation properties that are defined by their inner structure. We, however, don't think of them as materials, but rather as devices. We present metamaterial devices, such as analog or digital machines, and software tools that assist novice users in designing and fabricating them.

Alexandra Ion
 Patrick Baudisch
Hasso Plattner Institute University of Potsdam

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PaperPrinting: A Machine for Prototyping Paper and Its Applications for Graphic Design



We present a system that makes paper through additive manufacturing process by using a dispenser mounted on XY plotter. By using this system, graphic designers can design and output paper itself, which is difficult in an existing paper production process.

Wataru Date
Keio University

Yasuaki Kakehi
The University of Tokyo

Raymarching Toolkit for Unity



Raymarching Toolkit for Unity is a Unity 3D plugin enabling artists and non-programmers to create scenes using raymarching, a graphics technique previously limited to experts and hackers in the demoscene. Unusual effects like blending shapes, reflecting geometry into kaleidoscopic patterns, and applying magical distortions all become within reach.

Kevin Watters
Fernando Ramallo
Independent

Real-Time Motion Generation for Imaginary Creatures Using Hierarchical Reinforcement Learning



Describing the motions of imaginary original creatures is an essential part of animations and computer games. In this system, virtual creatures learn to move using hierarchical reinforcement learning. By combining reinforcement learning and simple exploration, we can achieve a light learning system capable of being operated on mobile devices.

Keisuke Ogaki
Masayoshi Nakamura
DWANGO Co., Ltd.

STUDIO WORKSHOPS

Monday 13, August

Troubleshooting and Cleanup Techniques for 3D Printing

Monday, 13 August, 10:15 AM-11:45 AM

Learn hands-on techniques for identifying and cleaning up geometry for 3D printing. Explore the most commonly encountered problems, discover how they are created and how they can be fixed, and develop a fluent understanding of the best practices to avoid them.

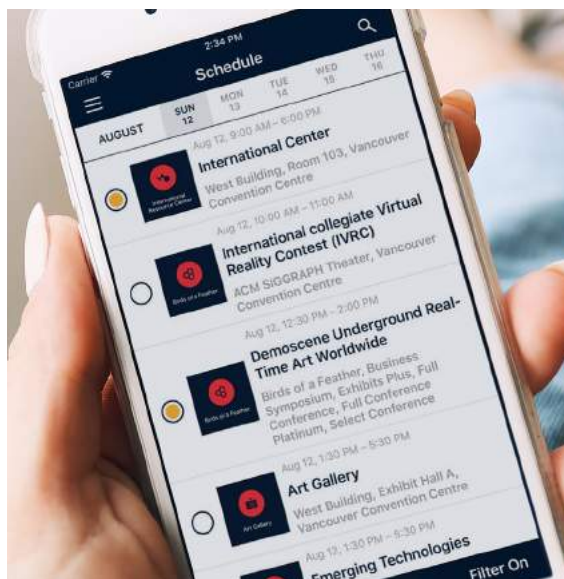
Lance Winkle
University of Southern California

IMVERSE LiveMaker - Create a 3D Model From a Single 2D Photo Inside VR

Monday, 13 August, 3:45-5:15 PM

Easy and fast process to transform a single 360-degree 2D picture, from any commercial camera, into a 3D room-scale experience with live hologram actors and real-time VFX.

Robin Mange
Kepa Iturrioz Zabala
Imverse SA



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Tuesday 14, August

LEDs as Sensors

Curated Content

Tuesday, 14 August, 10:15 AM-11:45 AM

Imagine an LED that turns itself on and off in response to light levels, or one that you can blow out like a candle. These are circuits you can build with just an Arduino, a resistor, an LED and a little code. In this workshop, we examine some surprising properties of LEDs to create systems that sense light, temperature and even wind speed.

Paul H. Dietz
Misapplied Sciences, Inc.

Jennifer Ginger Alford
Trinity Valley School

A Processing Primer for Artists

Curated Content

Tuesday, 14 August, 12 PM-1:30 PM

Processing is an open source programming language and Integrated Development Environment (IDE) developed by Casey Reas and Ben Fry. This is the second offering of this workshop – a hands-on programming primer for artists and designers who are interested in using programming and computational thinking as creative tools.

Elgin-Skye McLaren
Simon Fraser University

Susan Reiser
UNC Asheville

Ginger Alford
Trinity Valley School, Fort Worth Museum of Science and History

Unity Games 1: Scriptable Render Pipeline From Scratch

Curated Content

Tuesday, 14 August, 2 PM-3:30 PM

Rendering allows you to control many aspects of a scene, how it looks, what tone is conveyed, and how it is stylized. In this workshop attendees learn the basics of the Unity Scriptable Render Pipeline by creating a renderer from scratch. This renderer includes opaque and transparent rendering as well as simple lighting.

Peter Bay
Unity3d

IMVERSE LiveMaker - Create a 3D Model From a Single 2D Photo Inside VR

Tuesday, 14 August, 3:45 PM-5:15 PM

Robin Mange
Imverse

Wednesday 15, August

Designing Mini-Skateboard Designs for Laser Etching

Curated Content

Wednesday, 15 August, 10:15 AM-11:45 AM

Through this workshop attendees learn how to design illustrations with the final outcome of a laser etched skateboard. Design principles like line quality, composition, and balance are discussed with laser etching in mind. All attendees of this workshop receive a mini-skateboard with their design on it the day following the workshop.

Chris Williams

Creating a Virtual Host Experience Using Sumerian Hosts

Curated Content

Wednesday, 15 August, 12 PM-1:30 PM

In this hands-on workshop, participants create an interactive, immersive application incorporating Sumerian Hosts, the virtual character service developed by AWS. You will learn what are Sumerian Hosts, be taught how Hosts can integrate with a variety of AWS speech and translate services to create dynamic, interactive avatars. Each participant learns how to work with Cristine, Preston and Luke – the three Sumerian Hosts. They will design, build and publish their own scene which includes a virtual host.

Leo Chan
Amazon

Unity Games 2: Customizing a Production Render Pipeline

Curated Content

Wednesday, 15 August, 2 PM-3:30 PM

Now that you know how to write a Scriptable Render Pipeline we will delve deeper into a more advanced pipeline. This workshop is a case study of a fully featured project ready pipeline. After learning about targeting specific hardware levels and the tradeoffs that you have to make when writing a pipeline you will get the opportunity to extend this pipeline and add a number of custom effects.

Felipe Lira
Unity3d

IMVERSE LiveMaker - Create a 3D Model From a Single 2D Photo Inside VR

Wednesday, 15 August, 3:45 PM-5:15 PM

Robin Mange
Imverse

Thursday 16, August

Create Physically Accurate 3D Visualization of Complex Materials Using Total Appearance Capture

Curated Content

Monday, 13 August, 10:15 AM-11:45 AM

In this course, participants will learn how to utilize the innovative technology of TAC, including creating physically accurate 3D visualization of different and complex materials, capturing all appearance characteristics through the use of AxF (Appearance eXchange Format) files.

Marc Ellens
X-Rite Pantone

Creating an Immersive Scene Using Amazon Sumerian

Curated Content

Thursday, 16 August, 12 PM-1:30 PM

Amazon Sumerian is a web-based interactive developer environment, editor, and asset repository that can be used to easily and quickly create AR, VR and 3D applications. In this workshop, participants are introduced to the Sumerian console, learn to navigate the dashboard, and get hands-on experience creating their own immersive experience. Each participant has an opportunity to design, develop and publish their own creation.

Leo Chan
Amazon

Unity Games 3: Creating a Custom Production Ready Render Pipeline

Curated Content

Thursday, 16 August, 2 PM-3:30 PM

A render pipeline is only as good as the tools that accompany it. In this workshop you will add a number of enhancements to the pipelines you have been working with. This will include features like Shader Graph integration, editor UI enhancements and custom pipeline workflows. These features really round out the SRP experience and allow artists and technical artists to get the most out of a custom pipeline.

Matt Dean
Unity3d

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

Interest Areas:

- Production & Animation
- Research & Education
- ◆ Arts & Design
- Gaming & Interactive
- ▲ New Technologies

Go behind the scenes and into the minds of the conference creators in all areas of computer graphics technology and interactive techniques.

Full Conference Platinum and Full Conference registration allows attendees access to all SIGGRAPH 2018 Talks. Seating is on a first-come, first-served basis. Please arrive early for the talk you wish to attend.



SUNDAY, 12 AUGUST

I Can See Clearly Now

Sunday, 12 August, 9-10:30 AM



Confocal Non-Line-of-Sight Imaging

Matthew O'Toole
David B. Lindell
Gordon Wetzstein
Stanford University

Real-Time Muography Simulator for ScanPyramids Mission

Benoit MARINI
Whatever The Reality, HIP Institute

Divergence Projection with Electrostatics

Jeff Lait
Side Effects Software Inc

DeepFocus: Learned Image Synthesis for Computational Displays

Lei Xiao
Anton Kaplanyan
Alexander Fix
Douglas Lanman
Facebook Reality Labs

Best of SIGCHI

Sunday, 12 August, 10:45 AM-12:15 PM



Extending Manual Drawing Practices with Artist-Centric Programming Tools

Jennifer Jacobs
Stanford University

Joel Brandt
Snap, Inc.

Radomir Mech
Adobe Research

Mitchel Resnick
MIT Media Lab

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- Gaming & Interactive
- ▲ New Technologies

Pinpointing: Precise Head- and Eye-Based Target Selection for Augmented Reality

Mikko Tuomo Kytö
Aalto University, University of South Australia

Barrett Ens
Monash University, University of South Australia

Thammathip Piumsomboon
Gun A. Lee
University of South Australia

Mark Billinghamurst
University of South Australia, University of Auckland

ChromaGlasses: Computational Glasses for Compensating Colour Blindness

Tobias Langlotz
Jonathan Sutton
Stefanie Zollmann
University of Otago

Yuta Itoh
Tokyo Institute of Technology, RIKEN

Holger Regenbrecht
University of Otago

Datalnk: Direct and Creative Data-Oriented Drawing

Haijun Xia
University of Toronto

Nathalie Riche
Microsoft

Fanny Chevalier
Bruno Araujo
Daniel Wigdor
University of Toronto

Well Worn

Sunday, 12 August, 10:45 AM-12:15 PM



Collaborative Costume Design and Construction on 'Incredibles 2'

Aimee Kutt
Fran Kalal
Trent Crow
Beth Albright
Pixar Animation Studios

Dressed for Saving the Day: Finer Details for Garment Shading on 'Incredibles 2'

Trent Crow
Junyi Ling
Michael Kilgore
Pixar Animation Studios

Coco AnimSim: Increasing Quality and Efficiency

Emron Grover
Jacob Brooks
Kristopher Campbell
Bret Parker
Pixar Animation Studios

Better Collisions and Faster Cloth for Pixar's 'Coco'

David Eberle
Pixar

Augmenting Your Reality

Sunday, 12 August, 2-3:30 PM



Augmented Reality, Art, and Public Space

BC Biermann
Heavy Projects, CAVAD

Augmented Reality for Virtual Set Extension

Simon Spielmann
Volker Helzle
Filmakademie Baden-Württemberg GmbH, Animationsinstitut

Creating Great Augmented Reality Experiences Using ARKit 2

Christopher Figueroa
Apple, ARKit Engineering

Hares & Hairs

Sunday, 12 August, 2-3:30 PM



Hair Today, Cloth Tomorrow: Automating Character FX on Peter Rabbit

Miles Green
Animal Logic

Rogier Fransen
Weta Digital

Brian Kranz
FlyBoyz

Damien Gray
Animal Logic

Simulating Woven Fabrics with Weave

Bryan Smith
Roman Fedotov
Sang N. Le
Matthias Frei
Alex Latyshev
Luke Emrose
Jean Pascal leBlanc
Animal Logic

Hierarchical Controls for Art-Directed Hair at Disney

Avneet Kaur
Maryann Simmons
Walt Disney Animation Studios

Brian Whited
Riot Games

Engineering Full-Fidelity Hair for 'Incredibles 2'

Andrew Butts
Mark Hessler
Ben Porter
Dirk Van Gelder
Venkateswaran Krishna
Gary Monheit
Pixar

IEEE TVCG Session on Virtual and Augmented Reality

Sunday, 12 August, 2-3:30 PM



Gaze-Aware Streaming Solutions for the Next Generation of Mobile VR Experiences

Pietro Lungaro
Royal Institute of Technology - KTH

Rickard Sjöberg
Ericsson

Alfredo José Fanghella Valero
Ashutosh Mittal
Konrad Tollmar

Royal Institute of Technology - KTH

Parallax360: Stereoscopic 360° Scene Representation for Head-Motion Parallax

Bicheng Luo
School of Software, Tsinghua University

Feng Xu
School of Software, Tsinghua University

Christian Richardt
University of Bath

Jun-Hai Yong
School of Software, Tsinghua University

Saliency in VR: How Do People Explore Virtual Environments?

Vincent Sitzmann
Stanford University

Ana Serrano
Universidad de Zaragoza

Amy Pavel
University of California, Berkeley

Maneesh Agrawala
Stanford University

Diego Gutierrez
Belen Masia
Universidad de Zaragoza

Gordon Wetzstein
Stanford University

MRTouch: Adding Touch Input to Head-Mounted Mixed Reality

Robert Xiao
Carnegie Mellon University, Microsoft Research

Julia Schwarz
Nick Throm
Microsoft

Andrew D. Wilson
Hrvoje Benko
Microsoft Research

It's a Material World

Sunday, 12 August, 2-3:30 PM



Plausible Iris Caustics and Limbal Arc Rendering

Matt Jen-Yuan Chiang
Brent Burley
Walt Disney Animation Studios

A Compact Representation for Multiple Scattering in Participating Media Using Neural Networks

Liangsheng Ge
Shandong University

Beibei Wang
Nanjing University of Science and Technology

Lu Wang
Shandong University

Nicolas Holzschuch
University of Grenoble Alpes, Inria, CNRS, Grenoble INP, LJK

Perceptually Validated Analytical BRDFs Parameters Remapping

Dar'ya Guarnera
Giuseppe Claudio Guarnera
NTNU

Matteo Toscani
Justus-Liebig-Universität Gießen

Mashhuda Glencross
SwitchThat Technologies Ltd.

Baihua Li
Loughborough University

Jon Yngve Hardeberg
NTNU

Karl R. Gegenfurtner
Justus-Liebig-Universität Gießen

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Prelit Materials: Light Transport for Live-Action Elements in Production Rendering

Steve Agland
Daniel Heckenberg
Animal Logic Pty Ltd

En Masse

Sunday, 12 August, 3:45-5:15 PM



Other-Worldly Crowds in 'Coco'

Stephen Gustafson
Aaron Lo
Lana Sun
Jane Yen
J.D. Northrup
Pixar Animation Studios

Up Close with Simulated Crowds

Justin Bisceglia
Mark Adams
Blue Sky Studios

Automating the Handmade: Shading Thousands of Garments for 'Coco'

Byron Bashforth
Fernando de Goes
Athena Xenakis
Jacob Kuenzel
Pixar Animation Studios

Taming the Swarm: Rippers on 'Pacific Rim Uprising'

Martin Prazak
Double Negative

IEEE TVCG Session on Advances in Data Visualization

Sunday, 12 August, 3:45-5:15 PM



Globe Browsing: Contextualized Spatio-Temporal Planetary Surface Visualization

Alexander J. Bock
New York University, Center for Data Science

Karl Bladin
Erik Broberg
Linköping University

Carter Emmart
American Museum of Natural History

Patric Ljung
Emil Axelsson
Anders Ynnerman
Linköping University

Interactive Dynamic Volume Illumination with Refraction and Caustics

Jens G. Magnus
Stefan Bruckner
University of Bergen

The Topology ToolKit

Julien Tierny
CNRS, Sorbonne Universite
Guillaume Favelier
Sorbonne Universite
Joshua Levine
University of Arizona

Charles Gueunet
Kitware, Sorbonne Universite
Michael Michaux
Sorbonne Universite

ActiVis: Visual Exploration of Industry-Scale Deep Neural Network Models

Minsuk Kahng
Georgia Institute of Technology
Pierre Andrews
Aditya Kalro
Facebook
Polo Chau
Georgia Institute of Technology

Olaf's Image Capture Adventure!

Sunday, 12 August, 3:45-5:15 PM



DIY Absolute Tele-Colorimeter Using a Camera-Projector System

Giuseppe Claudio Guarnera
NTNU- Norwegian University of Science and Technology
Simone Bianco
Raimondo Schettini
University of Milan-Bicocca

Adidas TAPE: 3D Footwear Concept Design

Mario Pörner
adidas AG

Sword Tracer: Visualization of Sword Trajectories in Fencing

Masaki Takahashi
Japan Broadcasting Corporation (NHK), Science and Technology Research Laboratories

The Handiwork Behind 'Olaf's Frozen Adventure'

Josh Staub
Alessandro Jacomini
Walt Disney Animation Studios

MONDAY, 13 AUGUST

Be There or Be Square

Monday, 13 August, 9-10:30 AM



Animation to Games, Virtual Department of Games in Tokyo University of the Arts

Norihito Ueno
Tomohiro Hasegawa
Luminous Productions Co., Ltd.

Takashi Kiriya
Tokyo University of the Arts

Prasert Prasertvithyakarn
Isamu Hasegawa
Luminous Productions Co., Ltd.

Mitsuko Okamoto
Tokyo University of the Arts

Making of "Out of the Cradle"

Isamu Watamori
Ryuhei Ozai
Tomohiro Hasegawa
Isamu Hasegawa
Luminous Productions Co., Ltd.

Clean Up Your Room!

Monday, 13 August, 9-10:30 AM



Denosing at Scale for Massive Animated Series

Tamy Boubekour
Malik Boughida
Telecom ParisTech

Laurent Noël
Jérémy Defaye
Farchad Bidgolirad
Ubisoft Motion Pictures

Practical Denosing for VFX Production Using Temporal Blur

Daniel Dresser
Image Engine Design Inc

Achieving and Maintaining Real-Time Rigs

Rebecca Hallac
Christopher Moore
Blue Sky Studios

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Page Array Data Structures for Flexibility and Performance

Neil G. Dickson
Side Effects Software, Inc.

Effects Blender

Monday, 13 August, 9-10:30 AM



The Robots of LAIKA

Steve Switaj
LAIKA

The Greatest Showman: Crafting a Period New York City With Scaled Miniatures and Painterly Backgrounds

Luc Comtois
Alexandre Ménard
Martin Lipmann
Rodeo FX Inc.

Pacific Rim: Uprising - Developing the Mega Kaiju Transformation

Aaron Gilman
DNEG

Potpourri

Monday, 13 August, 2-3:30 PM



A Holistic Approach to Asset Quality and Efficiency

Julien Fabrice Cohen Bengio
Kaori Ogino
Barnaby Thomas Orlando Robson
Industrial Light & Magic

Lighting Pipeline for One – Or How to Keep Sane in a Discworld

Bjoern Siegert
Troll Bridge

Fast, High-Precision Ray/Fiber Intersection Using Tight, Disjoint Bounding Volumes

Nikolaus Binder
NVIDIA

Efficient Hybrid Volume and Texture-Based Clouds

Laura Murphy
Martin Sebastian Senn
Matthew Webb
Pixar Animation Studios

Production Junction

Monday, 13 August, 3:45-5:15 PM



Unraveling 'Purl': Continuing Pixar's Experimental Story Initiative

David Lally
David Munier
Kristen Lester
Farhez Rayani
Pixar Animation Studios

DNEG at 20 - Creative Milestones

Peter Chiang
DNEG

Gouging the Surface

Monday, 13 August, 3:45-5:35 PM



Making Space for Cloth Simulations Using Energy Minimization

David Minor
Digital Domain 3.0

Clean Cloth Inputs: Removing Character Self-Intersections with Volume Simulation

Audrey Wong
Pixar Animation Studios

David Eberle
Adobe Systems

Theodore Kim
Pixar Animation Studios

Patch-Based Surface Relaxation

Fernando de Goes
Michael Comet
Alonso Martinez
Aimei Kutt
Pixar Animation Studios

Regularization of Voxel Art

David Coeurjolly
CNRS, LIRIS

Jacques-Olivier Lachaud
Université de Savoie Mont Blanc

Procedural Fluid Textures

Sean C. McDuffee
Blue Sky Studios

TUESDAY, 14 AUGUST

For the Love of Tech Art

Tuesday, 14 August, 9-10:30 AM



Technical Art of Sea of Thieves

Valentine Kozin
Rare Ltd, Microsoft

Reinterpreting Memorable Characters in 'Incredibles 2'

Nancy Tsang
Jacob Speirs
Rich Hurrey
Salvatore Melluso
Mark Piretti
Lou Hamou-Lhadj
Kevin Singleton
Pixar Animation Studios

Making 'Coco's Pepita

Alonso Martinez
KC Roeyer
Athena Xenakis
Laura Hainke
Pixar Animation Studios

Skinny & Flexible

Tuesday, 14 August, 10:45 AM-12:15 PM



Making Mrs. Incredible More Flexible

Kevin Singleton
Trent Crow
Edgar Rodriguez
Pixar Animation Studios

Robust Skin Simulation in 'Incredibles 2'

Ryan Kautzman
Gordon Cameron
Theodore Kim
Pixar Animation Studios

Mobilizing Mocap, Motion Blending, and Mayhem: Rig Interoperability for Crowd Simulation on 'Incredibles 2'

Paul Kanyuk
Patrick Coleman
Jonah B. Laird
Pixar Animation Studios

Bringing Skeletons To Life for Coco

Christian Hoffman
Jonathan Hoffman
Pixar Animation Studios

Registration Level:

● Full Conference Platinum ● Full Conference ● Select Conference ● Exhibits Plus ● Exhibits Only ● Exhibitors ● Business Symposium

Interest Areas:

■ Production & Animation ● Research & Education ◆ Arts & Design ● Gaming & Interactive ▲ New Technologies

USD Certified Lean, Eh?

Tuesday, 14 August, 10:45 AM-12:15 PM

**Zero to USD in 80 Days: Transitioning Feature Production to Universal Scene Description at DreamWorks**Alan Blevins
Mike Murray
*DreamWorks***Forging a New Animation Pipeline with USD**Aloys Baillet
Eoin Murphy
Miguel Gao
Oliver Dunn
*Animal Logic***The 'Extra' Touch on 'Incredibles 2'**Kiki Mei Kee Poh
Michael Kilgore
Tom Wichitsripornkul
Gary Monheit
*Pixar Animation Studios***Walter: An Open Source VFX Framework for USD and Alembic**Guillaume Laforge
*Rodeo FX***Visual Visage**

Tuesday, 14 August, 2-3:30 PM

**Digital Albert Einstein, a Case Study**Volker Helzle
Kai Goetz
*Filmakademie Baden-Württemberg, Animationsinstitut***Avengers: Capturing Thanos's Complex Face**Darren Hendler
*Digital Domain***High-Quality, Cost-Effective Facial Motion Capture Pipeline with 3D Regression**Lucio Moser
Mark Williams
Darren Hendler
Doug Roble
*Digital Domain***It: How to Build a Terrifying Clown**Luc Comtois
Mikael Damant-Sirois
Dominic Piche
*Rodeo FX Inc.***Creating the Unreal**

Tuesday, 14 August, 3:45-5:15 PM

**Rampage: A Product of Evolution**Erik Winquist
*Weta Digital***Accelerating Film Environment Creation Using Game Development Tools**John Vanderbeck
Alex Jenyon
*MPC***Creating the Unreal: Speculative Visions for Future Living Structures**Taro Narahara
*New Jersey Institute of Technology***Tripping the Light VR**

Tuesday, 14 August, 3:45-5:15 PM

**The Making of Welcome to Light Fields VR**Ryan S. Overbeck
*Google Inc.*Paul Debevec
*Google Inc., USC Institute for Creative Technologies*Daniel Erickson
Daniel Evangelakos
*Google Inc.***Fractal Multiverses in VR**Johannes Saam
Mariano Merchante
*Framestore***VR Story Production on Disney Animation's 'Cycles'**Jeff Gipson
Jose Gomez
*Walt Disney Animation Studios***WEDNESDAY, 15 AUGUST****Light it Up**

Wednesday, 15 August, 9-10:30 AM

**GafFour and Sequence-Based Lighting**Xinling Chen
Lucas Miller
*Sony Pictures Imageworks***KatanaForFX: Intertwine FX and Lighting**Leila Schemali
Bernie Wong
Nigel Ankers
*MPC***Registration Level:**

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THURSDAY, 16 AUGUST

Sampling the Product

Thursday, 16 August, 10:45 AM-12:15 PM

**Adaptive Environment Sampling on CPU and GPU**Asen Atanasov
*Chaos Group, Charles University*Jaroslav Krivanek
*Render Legion, Charles University***Fast Product Importance Sampling of Environment Maps**Alejandro Conty Estevez
Pascal Lecocq
*Sony Pictures Imageworks***Bidirectional Path Tracing Using Backward Stochastic Light Culling**Yusuke Tokuyoshi
*SQUARE ENIX CO., LTD.*Takahiro Harada
*Advanced Micro Devices, Inc.***Fast Path Space Filtering by Jittered Spatial Hashing**Nikolaus Binder
Alexander Keller
*NVIDIA***Ohooo Shiny!**

Thursday, 16 August, 2-3:30 PM

**Automatic Photo-from-Panorama for Google Maps**Jared Johnson
Sema Berkiten
*Google Inc.***Classified Texture Resizing for Mobile Devices**Jae-Ho Nah
Byeongjun Choi
Yeongkyu Lim
*LG Electronics***Deep Thoughts on Deep Image Compression**Rob Pieké
Yanli Zhao
Fabià Serra Arrizabalaga
*MPC Shadow Lab***Synthesising Panoramas for Non-Planar Displays: A Camera Array Workflo**Esan Mandal
Amy Kwa
*DreamWorks Animation***Blow it Up Real Good**

Thursday, 16 August, 3:45-5:15 PM

**'Star Wars: The Last Jedi' – Effects Simulation**Miguel Perez Senent
Mihai Cioroba
Rick Hankins
Huai Yuan Teh
*Industrial Light & Magic***A Collocated Spatially Adaptive Approach to Smoke Simulation in Bifrost**Michael B. Nielsen
Konstantinos Stamatelos
Morten Bojsen-Hansen
Duncan Brinsmead
Yannick Pomerleau
Marcus Nordenstam
Robert Bridson
*Autodesk***'Rampage': A Pipelined Approach to Managing Large-Scale Character-Driven Effects**Johnathan M. Nixon
Sebastian H. Schmidt
*Weta Digital***SimpleBullet: Collaborating on a Modular Destruction Toolkit**Ferdinand Scheepers
Pixar
Marie Tollec
Walt Disney Animation Studios
Will Harrower
*Industrial Light and Magic***Registration Level:**

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The Technical Papers program is the premier international forum for disseminating and discussing new scholarly work in computer graphics technology and interactive techniques.

Technical Papers are published as a special issue of ACM Transaction on Graphics. In addition to papers selected by the SIGGRAPH 2018 Technical Papers Jury, the conference presents papers that have been published in ACM Transactions on Graphics during the past year.

Full Conference Platinum and Full Conference Access registration allows attendees access to all SIGGRAPH 2018 Technical Papers.

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

TECHNICAL PAPERS FAST FORWARD



Sunday, 12 August, 6-8 PM

An entertaining, illuminating summary of SIGGRAPH 2018 Technical Papers. Sponsored by Adobe Systems, Inc.



MONDAY, 13 AUGUST

(01) A Race to the Bottom (of the Geometric Energy Plot)

Monday, 13 August, 10:45 AM-12:35 PM

Blended Cured Quasi-Newton for Distortion Optimization

Yufeng Zhu
University of British Columbia

Robert Bridson
Autodesk

Danny Kaufman
Adobe

Progressive Parameterizations

Ligang Liu
Chunyang Ye
Ruiqi Ni
Xiao-Ming Fu
University of Science and Technology of China

Anderson Acceleration for Geometry Optimization and Physics Simulation

Yue Peng
University of Science and Technology of China

Bailin Deng
Cardiff University

Juyong Zhang
Fanyu Geng
Wenjie Qin
Ligang Liu
University of Science and Technology of China

Opt: A Domain-Specific Language for Non-linear Least Squares Optimization in Graphics and Imaging

Zachary DeVito
Facebook Research

Michael Mara
Stanford University

Michael Zollhoefer
Max-Planck-Institute for Informatics

Gilbert Bernstein
Stanford University

Jonathan Ragan-Kelley
University of California, Berkeley

Christian Theobalt
Max-Planck-Institute for Informatics

Pat Hanrahan
Stanford University

Matthew Fisher
Adobe Research

Matthias Niessner
Technical University of Munich

Active Animations of Reduced Deformable Models with Environment Interactions

Zherong Pan
Dinesh Manocha
University of North Carolina at Chapel Hill

(02) An Immersion in Computational Geometry

Monday, 13 August, 10:45 AM-12:35 PM

Fast Winding Numbers for Soups and Clouds

Gavin Barill
University of Toronto

Neil G. Dickson
Side Effects Software Inc.

Ryan Schmidt
Gradientspace

David I. W. Levin
Alec Jacobson
University of Toronto

Voxel Cores: Efficient, Robust, and Provably Good Approximation of 3D Medial Axes

Yajie Yan
Washington University in St. Louis

David Letscher
St. Louis University

Tao Ju
Washington University in St. Louis

Immersion of Self-Intersecting Solids and Surfaces

Yijing Li
Jernej Barbic
University of Southern California

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- ▲ New Technologies

Robust Optimization for Topological Surface Reconstruction

Roeel Lazar
Nadav Dym
Yam Kushinsky
Weizmann Institute of Science

Zhiyang Huang
Tao Ju
Washington University in St. Louis

Yaron Lipman
Weizmann Institute of Science

Implicitizing Rational Tensor Product Surfaces Using the Resultant of Three Moving Planes

Li-Yong Shen
University of Chinese Academy of Sciences

Ron Goldman
Rice University

(03) Computational Photography
Monday, 13 August, 10:45 AM-12:35 PM

Exposure: A White-Box Photo Post-Processing Framework

Yuanming Hu
Hao He
MIT CSAIL

Chenxi Xu
Peking University

Baoyuan Wang
Stephen Lin
Microsoft Research

Deep Exemplar-Based Colorization

Mingming He
Hong Kong UST

Dongdong Chen
University of Science and Technology of China

Jing Liao
Microsoft Research

Pedro V. Sander
Hong Kong UST

Lu Yuan
Microsoft Research

Locally Adaptive Rank-Constrained Optimal Tone Mapping

Xiao Shu
Xiaolin Wu
McMaster University, Shanghai Jiao Tong University

Deep Context-Aware Descreening and Rescreening of Halftone Images

Tae-hoon Kim
Intel Corporation

Sang Il Park
Sejong University

Non-Stationary Texture Synthesis by Adversarial Expansion

Yang Zhou
Shenzhen University, Huazhong University of Science and Technology

Zhen Zhu
Xiang Bai
Huazhong University of Science and Technology

Dani Lischinski
The Hebrew University of Jerusalem

Daniel Cohen-Or
Shenzhen University, Tel Aviv University

Hui Huang
Shenzhen University

(04) Cloth Encounters of the Shirt Kind
Monday, 13 August, 2-3:30 PM

Eulerian-on-Lagrangian Cloth Simulation

Nicholas J. Weidner
Texas A&M University

Kyle Piddington
California Polytechnic State University

David I.W. Levin
The University of Toronto

Shinjiro Sueda
Texas A&M University

A Multi-Scale Model for Simulating Liquid-Fabric Interactions

Yun (Raymond) Fei
Columbia University

Christopher Batty
University of Waterloo

Eitan Grinspun
Changxi Zheng
Columbia University

An Implicit Frictional Contact Solver for Adaptive Cloth Simulation

Jie Li
University of Minnesota

Gilles Daviet
Inria, Weta Digital

Rahul Narain
University of Minnesota, Indian Institute of Technology Delhi

Florence Bertails-Descoubes
Inria

Matthew Overby
University of Minnesota

George E. Brown
University of Minnesota

Laurence Boissieux
Inria

Rule-Free Sewing Pattern Adjustment with Precision and Efficiency

Huamin Wang
The Ohio State University, Frilly Inc.

(05) Smart Integration for Real-Time Rendering
Monday, 13 August, 2-3:30 PM

Integrating Clipped Spherical Harmonics Expansions

Laurent Belcour
Unity Technologies

Guofu Xie
Momenta.ai

Christophe Hery
Mark Meyer
Pixar Animation Studios

Wojciech Jarosz
Dartmouth College

Derek Nowrouzezahrai
McGill University

Analytic Spherical Harmonic Coefficients for Polygonal Area Lights

Jingwen Wang
Ravi Ramamoorthi
University of California, San Diego

Laplacian Kernel Splatting for Efficient Depth-of-Field and Motion Blur Synthesis or Reconstruction

Thomas Leimkuehler
Hans-Peter Seidel
MPI Informatik

Tobias Ritschel
University College London

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- Research & Education
- ◆ Arts & Design
- Gaming & Interactive
- ▲ New Technologies

MergeTree: A Fast Hardware HLBVH Constructor for Animated Ray Tracing

Timo Viitanen
 Matias Koskela
 Pekka Jääskeläinen
 Heikki Kultala
 Jarmo Takala
 Tampere University of Technology

(06) Virtually Human
 Monday, 13 August, 2-3:30 PM

Deep Learning of Biomimetic Sensorimotor Control for Biomechanical Human Animation

Masaki Nakada
 Tao Zhou
 Honglin Chen
 Tomer Weiss
 Demetri Terzopoulos
 University of California, Los Angeles

Dexterous Manipulation and Control with Volumetric Muscles

Seunghwan Lee
 Ri Yu
 Jungnam Park
 Seoul National University
 Mridul Aanjaneya
 Rutgers University
 Eftychios Sifakis
 University of Wisconsin-Madison
 Jehee Lee
 Seoul National University

The Human Touch: Measuring Contact with Real Human Soft Tissues

Dinesh K. Pai
 University of British Columbia, Vital Mechanics Research
 Austin Rothwell
 Pearson Wyder-Hodge
 Alistair Wick
 University of British Columbia
 Ye Fan
 Egor Larionov
 University of British Columbia, Vital Mechanics Research
 Darcy Harrison
 Vital Mechanics Research
 Debanga Raj Neog
 Cole Shing
 University of British Columbia

An Empirical Rig for Jaw Animation

Gaspard Zoss
 Derek Bradley
 Disney Research
 Pascal Bérard
 Disney Research, ETH Zurich
 Thabo Beeler
 Disney Research

TUESDAY, 14 AUGUST

(07) Cleaning Up the Mesh We Made
 Tuesday, 14 August, 9-10:30 AM

Tetrahedral Meshing in the Wild

Yixin Hu
 New York University
 Qingnan Zhou
 Adobe Research
 Xifeng Gao
 New York University
 Alec Jacobson
 University of Toronto
 Denis Zorin
 Daniele Panozzo
 New York University

Curved Optimal Delaunay Triangulation

Leman Feng
 Caltech; INRIA, Université Côte d'Azur
 Pierre Alliez
 Laurent Busé
 Hervé Delingette
 INRIA, Université Côte d'Azur
 Mathieu Desbrun
 California Institute of Technology

Computing a High-Dimensional Euclidean Embedding from an Arbitrary Smooth Riemannian Metric

Zichun Zhong
 Wayne State University
 Wenping Wang
 The University of Hong Kong
 Bruno Lévy
 INRIA Nancy - Grand Est
 Jing Hua
 Wayne State University
 Xiaohu Guo
 University of Texas at Dallas

Shape from Metric

Albert Chern
 Felix Knöppel
 Ulrich Pinkall
 Technical University of Berlin
 Peter Schröder
 California Institute of Technology

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Interest Areas:

- Production & Animation
- Research & Education
- ◆ Arts & Design
- Gaming & Interactive
- ▲ New Technologies

(08) Computational Photos and Videos
Tuesday, 14 August , 9-10:30 AM

Synthetic Depth-of-Field with a Single-Camera Mobile Phone

Neal Wadhwa
 Rahul Garg
 David E. Jacobs
 Bryan E. Feldman
 Nori Kanazawa
 Robert Carroll
 Yair Movshovitz-Attias
 Jonathan T. Barron
 Yael Pritch
 Marc Levoy
 Google Inc.

Stereo Magnification: Learning View Synthesis Using Multiplane Images

Tinghui Zhou
 University of California, Berkeley

Richard Tucker
 John Flynn
 Graham Fyffe
 Noah Snavely
 Google, Inc.

Gigapixel Panorama Video Loops

Mingming He
 Hong Kong UST
 Jing Liao
 Microsoft Research
 Pedro V. Sander
 Hong Kong UST
 Hugues Hoppe
 Google Inc.

An Omnistereoscopic Video Pipeline for Capture and Display of Real-World VR

Christopher Schroers
 Disney Research
 Jean-Charles Bazin
 KAIST
 Alexander Sorkine-Hornung
 Disney Research

(09) Interaction/VR
Tuesday, 14 August, 9-10:30 AM

In the Blink of an Eye: Leveraging Blink-Induced Suppression for Imperceptible Position and Orientation Redirection in Virtual Reality

Eike Langbehn
 Frank Steinicke
 Universität Hamburg

Markus Lappe
 Universität Münster

Gregory F. Welch
 Gerd Bruder
 University of Central Florida

Towards Virtual Reality Infinite Walking: Dynamic Saccadic Redirection

Qi Sun
 Stony Brook University, NVIDIA and Adobe Research

Anjul Patney
 NVIDIA

Li-Yi Wei
 Adobe Research

Omer Shapira
 NVIDIA

Jingwan Lu
 Paul Asente
 Adobe Research

Suwen Zhu
 Stony Brook University

Morgan McGuire
 David Luebke
 NVIDIA

Arie Kaufman
 Stony Brook University

FaceVR: Real-Time Gaze-Aware Facial Reenactment in Virtual Reality

Justus Thies
 Technical University of Munich

Michael Zollhöfer
 Stanford University

Marc Stamminger
 University of Erlangen Nuremberg

Christian Theobalt
 Max-Planck-Institute for Informatics

Matthias Nießner
 Technical University of Munich

Deep Appearance Models for Face Rendering

Stephen Lombardi
 Jason Saragih
 Tomas Simon
 Yaser Sheikh
 Facebook Reality Labs

(10) Image & Shape Analysis With CNNs
Tuesday, 14 August, 10:45 AM-12:35 PM

Neural Best-Buddies: Sparse Cross-Domain Correspondence

Kfir Aberman
 Advanced Innovation Center for Future Visual Entertainment, Beijing Film Academy; Tel-Aviv University

Jing Liao
 Microsoft Research Asia

Mingyi Shi
 Shandong University

Dani Lischinski
 The Hebrew University of Jerusalem

Baoquan Chen
 Shandong University, Advanced Innovation Center for Future Visual Entertainment

Daniel Cohen-Or
 Tel-Aviv University

Deep Convolutional Priors for Indoor Scene Synthesis

Kai Wang
 Brown University

Manolis Savva
 Angel X. Chang
 Princeton University

Daniel Ritchie
 Brown University

Point Convolutional Neural Networks by Extension Operators

Matan Atzmon
 Haggai Maron
 Yaron Lipman
 Weizmann Institute of Science

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Learning Local Shape Descriptors from Part Correspondences with Multi-View Convolutional Networks

Haibin Huang
Evangelos Kalogerakis
University of Massachusetts Amherst

Siddhartha Chaudhuri
IIT Bombay

Duygu Ceylan
Vladimir G. Kim
Ersin Yumer
Adobe Research

Semantic Soft Segmentation

Yagiz Aksoy
Massachusetts Institute of Technology, ETH Zurich

Tae-Hyun Oh
Massachusetts Institute of Technology

Sylvain Paris
Adobe Research

Marc Pollefeys
ETH Zurich, Microsoft

Wojciech Matusik
Massachusetts Institute of Technology

(11) Layers, Glints and Surface Microstructure

Tuesday, 14 August, 10:45 AM-12:35 PM

Efficient Rendering of Layered Materials Using an Atomic Decomposition with Statistical Operators

Laurent Belcour
Unity Technologies

The Layer Laboratory: A Calculus for Additive and Subtractive Composition of Anisotropic Surface Reflectance

Tizian Zeltner
Wenzel Jakob
EPFL

Rendering Specular Microgeometry with Wave Optics

Ling-Qi Yan
University of California, Berkeley

Milos Hasan
Autodesk

Bruce Walter
Steve Marschner
Cornell University

Ravi Ramamoorthi
University of California, San Diego

Gaussian Material Synthesis

Károly Zsolnai-Fehér
TU Wien

Peter Wonka
KAUST

Michael Wimmer
TU Wien

Appearance Modeling Via Proxy-to-Image Alignment

Hui Huang
Ke Xie
Lin Ma
Shenzhen University

Dani Lischinski
The Hebrew University of Jerusalem

Minglun Gong
Memorial University of Newfoundland

Xin Tong
Microsoft Research Asia

Daniel Cohen-Or
Shenzhen University, Tel Aviv University

(12) Cutting, Zipping and Folding Surfaces

Tuesday, 14 August, 2-3:30 PM

Discrete Geodesic Nets for Modeling Developable Surfaces

Michael Rabinovich
ETH Zurich

Tim Hoffmann
TU Munich

Olga Sorkine-Hornung
ETH Zurich

Developability of Triangle Meshes

Oded Stein
Eitan Grinspun
Columbia University

Keenan Crane
Carnegie Mellon University

Natural Boundary Conditions for Smoothing in Geometry Processing

Oded Stein
Eitan Grinspun
Columbia University

Max Wardetzky
Universität Göttingen

Alec Jacobson
University of Toronto

Shape Representation by Zippables

Christian Schüller
Roi Poranne
Olga Sorkine-Hornung
ETH Zurich

(13) That's Elastic

Stabilizing Integrators for Real-Time Physics

Dimitar Dinev
University of Utah

Tiantian Liu
University of Pennsylvania

Ladislav Kavan
University of Utah

FEPR: Fast Energy Projection for Real-Time Simulation of Deformable Objects

Tiantian Liu
University of Pennsylvania

Dimitar Dinev
Jing Li
University of Utah

Bernhard Thomaszewski
Université de Montréal

Ladislav Kavan
University of Utah

Hyper-Reduced Projective Dynamics

Christopher Brandt
Elmar Eisemann
Klaus Hildebrandt
Delft University of Technology

Dynamic Kelvinlets: Secondary Motions Based on Fundamental Solutions of Elastodynamics

Fernando de Goes
Pixar Animation Studios

Doug L. James
Stanford University
Pixar Animation Studios

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Interest Areas:

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- ▲ New Technologies

(14) Volume Rendering and Global Illumination

Tuesday, 14 August, 2-3:30 PM

Reversible Jump Metropolis Light Transport Using Inverse Mappings

Benedikt Bitterli
Dartmouth College, ETH Zurich and Disney Research

Wenzel Jakob
École Polytechnique Fédérale de Lausanne (EPFL)

Jan Novák
Disney Research

Wojciech Jarosz
Dartmouth College, Disney Research

Second-Order Occlusion-Aware Volumetric Radiance Caching

Julio Marco
Adrian Jarabo
Universidad de Zaragoza, I3A

Wojciech Jarosz
Dartmouth College

Diego Gutierrez
Universidad de Zaragoza, I3A

Gradient-domain Volumetric Photon Density Estimation

Adrien Gruson
The University of Tokyo, JFLI CNRS UMI 3527

Binh-Son Hua
The University of Tokyo, Singapore University of Technology and Design

Nicolas Vibert
Derek Nowrouzezahrai
McGill University

Toshiya Hachisuka
The University of Tokyo

A Radiative Transfer Framework for Spatially Correlated Materials

Adrian Jarabo
Universidad de Zaragoza

Carlos Aliaga
Universidad de Zaragoza, Desilico Labs

Diego Gutierrez
Universidad de Zaragoza

(15) Fluids 1: Raiders of the Lost Volume

Tuesday, 14 August, 3:45- 5:35 PM

Example-Based Turbulence Style Transfer

Syuhei Sato
DWANGO Co., Ltd., Dwango CG Research

Yoshinori Dobashi
Hokkaido University, Dwango CG Research

Theodore Kim
Pixar Animation Studios

Tomoyuki Nishita
Dwango CG Research, Hiroshima Shudo University

Pressure Boundaries for Implicit Incompressible SPH

Stefan Band
Christoph Gissler
University of Freiburg

Markus Ihmsen
Jens Cornelis
FIFTY2 Technology GmbH

Andreas Peer
Matthias Teschner
University of Freiburg

An Advection-Reflection Solver for Detail-Preserving Fluid Simulation

Jonas Zehnder
Université de Montréal

Rahul Narain
University of Minnesota, Indian Institute of Technology Delhi

Bernhard Thomaszewski
Université de Montréal

An Extended Partitioned Method for Conservative Solid-Fluid Coupling

Muzaffer Akbay
Nicholas Nobles
University of California, Riverside

Victor Zordan
Clemson University

Tamar Shinar
University of California, Riverside

Scalable Laplacian Eigenfluids

Qiaodong Cui
Pradeep Sen
University of California, Santa Barbara

Theodore Kim
Pixar Animation Studios

(16) Taking Flight

Tuesday, 14 August, 3:45-5:35 pm

Directing Cinematographic Drones

Quentin Galvane
INRIA Rennes,; Mimetic Team

Christophe Lino
LTCI, Telecom ParisTech; Paris Saclay University

Marc Christie
University of Rennes; INRIA, CNRS, IRISA

Julien Fleureau
Fabien Servant
Francois-Louis Tariolle
Philippe Guillotel
Technicolor, Rennes

Precomputed Panel Solver for Aerodynamics Simulation

Haoran Xie
The University of Tokyo, Japan Advanced Institute of Science and Technology

Takeo Igarashi
The University of Tokyo

Kazunori Miyata
Japan Advanced Institute of Science and Technology

Creating and Chaining Camera Moves for Quadrotor Videography

Ke Xie
Hao Yang
Shengqiu Huang
Shenzhen University

Dani Lischinski
The Hebrew University of Jerusalem

Marc Christie
IRISA/INRIA Rennes Bretagne

Kai Xu
Shenzhen University

Minglun Gong
Memorial University of Newfoundland

Daniel Cohen-Or
Shenzhen University, Tel Aviv University

Hui Huang
Shenzhen University

Learning Three-dimensional Flow for Interactive Aerodynamic Design

Nobuyuki Umetani
Autodesk Research

Bernd Bickel
IST Austria

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Optimizing for Aesthetically Pleasing Quadrotor Camera Motion

Christoph Gebhardt
Stefan Stevsic
Otmarr Hilliges
ETH Zurich

WEDNESDAY, 15 AUGUST

(17) Fields and Remeshing Wednesday, 15 August, 9-10:30 AM

Integer-Only Cross Field Computation

Nahum Farchi
Mirela Ben-Chen
Technion - Israel Institute of Technology

Quadrangulation Through Morse-Parameterization Hybridization

Xianzhong Fang
Hujun Bao
Zhejiang University

Yiyong Tong
Michigan State University

Mathieu Desbrun
California Institute of Technology

Jin Huang
Zhejiang University

Modeling n-Symmetry Vector Fields Using Higher-Order Energies

Christopher Brandt
Leonardo Scandolo
Elmar Eisemann
Klaus Hildebrandt
Delft University of Technology

Singularity Constrained Octahedral Fields for Hexahedral Meshing

Heng Liu
RWTH Aachen University

Paul Zhang
Edward Chien
Justin Solomon
Massachusetts Institute of Technology

David Bommes
RWTH Aachen University

(18) Fluids 2: Vortex Boogaloo Wednesday, 15 August, 9-10:30 AM

Water Surface Wavelets

Stefan Jeschke
NVIDIA

Tomas Skrivan
IST Austria

Nuttapong Chentanez
Matthias Mueller-Fischer
Miles Macklin
NVIDIA

Chris Wojtan
IST Austria

tempoGAN: A Temporally Coherent, Volumetric GAN for Super-Resolution Fluid Flow

You Xie
Erik Franz
Mengyu Chu
Nils Thuerey
Technical University of Munich

Fluid Directed Rigid Body Control Using Deep Reinforcement Learning

Pingchuan Ma
Yunsheng Tian
Nankai University

Zherong Pan
University of North Carolina at Chapel Hill

Bo Ren
Nankai University

Dinesh Manocha
University of Maryland at College Park

Automatically Distributing Eulerian and Hybrid Fluid Simulations in the Cloud

Omid Mashayekhi
Chinmayee Shah
Hang Qu
Andrew Lim
Philip Levis
Stanford University

(19) Sketching Wednesday, 15 August, 9-10:30 AM

StrokeAggregator: Consolidating Raw Sketches into Artist-Intended Curve Drawings

Chenxi Liu
University of British Columbia

Enrique Rosales
University of British Columbia, Universidad Panamericana

Alla Sheffer
University of British Columbia

Mastering Sketching: Adversarial Augmentation for Structured Prediction

Edgar Simo-Serra
Satoshi Iizuka
Hiroshi Ishikawa
Waseda University

Real-Time Data-Driven Interactive Rough Sketch Inking

Edgar Simo-Serra
Satoshi Iizuka
Hiroshi Ishikawa
Waseda University

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FaceShop: Deep Sketch-Based Face Image Editing

Tiziano Portenier
Qiyang Hu
Attila Szabo
Siavash Bigdeli
Paolo Favaro
University of Bern

Matthias Zwicker
University of Maryland, College Park

(20) 3D Capture

Wednesday, 15 August, 10:45 AM-12:35 PM

Space-Time Tomography for Continuously Deforming Objects

Guangming Zang
Ramzi Idoughi
Ran Tao
Peter Wonka
Gilles Lubineau
Wolfgang Heidrich
KAUST

Instant 3D Photography

Peter Hedman
University College London

Johannes Kopf
Facebook

Reconstructing Scenes with Mirror and Glass Surfaces

Thomas Whelan
Facebook Reality Labs

Michael Goesele
Facebook Reality Labs, TU Darmstadt

Steven J. Lovegrove
Julian Straub
Simon Green
Facebook Reality Labs

Richard Szeliski
Facebook

Steven Butterfield
Shobhit Verma
Richard Newcombe
Facebook Reality Labs

Full 3D Reconstruction of Transparent Objects

Bojian Wu
SIAT, Shenzhen; Shenzhen University

Yang Zhou
Shenzhen University, Huazhong University of Science and Technology

Yiming Qian
University of Alberta

Minglun Gong
Memorial University of Newfoundland

Hui Huang
Shenzhen University

Object-Aware Guidance for Autonomous Scene Reconstruction

Ligang Liu
Xi Xia
Han Sun
Qi Shen
University of Science and Technology of China

Juzhan Xu
Bin Chen
Hui Huang
Shenzhen University

Kai Xu
National University of Defense Technology, Shenzhen University

(21) Flattening, Unflattening and Sampling

Wednesday, 15 August, 10:45 AM-12:35 PM

Boundary First Flattening

Rohan Sawhney
Keenan Crane
Carnegie Mellon University

Optimal Cone Singularities for Conformal Flattening

Yousuf Soliman
Dejan Slepčev
Keenan Crane
Carnegie Mellon University

Rapid Deployment of Curved Surfaces via Programmable Auxetics

Mina Konakovic-Lukovic
Julian Panetta
EPFL

Keenan Crane
Carnegie Mellon University

Mark Pauly
EPFL

Spoke-Darts for High-Dimensional Blue Noise Sampling

Scott A. Mitchell
Mohamed S. Ebeida
Sandia National Laboratories

Muhammad A. Awad
University of California at Davis

Chonhyon Park
University of North Carolina, Chapel Hill

Anjul Patney
NVIDIA

Ahmad A. Rushdi
University of California at Davis, Sandia National Laboratories

Laura P. Swiler
Sandia National Laboratories

Dinesh Manocha
University of North Carolina, Chapel Hill

Li-Yi Wei
University of Hong Kong, Adobe Research

Designing Patterns Using Triangle-Quad Hybrid Meshes

Chi-Han Peng
King Abdullah University of Science and Technology

Helmut Pottmann
TU Wien

Peter Wonka
King Abdullah University of Science and Technology

(22) Sounds Good!

Wednesday, 15 August, 10:45 AM-12:35 PM

Parametric Directional Coding for Precomputed Sound Propagation

Nikunj Raghuvanshi
John Snyder
Microsoft Research

Toward Wave-Based Sound Synthesis for Computer Animation

Jui-Hsien Wang
Ante Qu
Stanford University

Timothy Langlois
Adobe Research

Doug James
Stanford University

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- ▲ New Technologies

Multi-Scale Simulation of Nonlinear Thin-Shell Sound with Wave Turbulence

Gabriel Cirio
Inria, Université Côte d'Azur; Columbia University

Ante Qu
Stanford University

George Drettakis
Inria, Université Côte d'Azur

Eitan Grinspun
Changxi Zheng
Columbia University

Scene-Aware Audio for 360° Videos

Dingzeyu Li
Columbia University

Timothy Langlois
Adobe Research

Changxi Zheng
Columbia University

Looking to Listen at the Cocktail Party: A Speaker-Independent Audio-Visual Model for Speech Separation

Ariel Ephrat
Google Research, Hebrew University of Jerusalem

Inbar Mosseri
Oran Lang
Tali Dekel
Kevin Wilson
Avinatan Hassidim
William Freeman
Michael Rubinstein
Google Research

(23) Computational Cameras Wednesday, 15 August, 2-3:30 PM

What Are Optimal Coding Functions for Time-of-Flight Imaging?

Mohit Gupta
Andreas Velten
University of Wisconsin-Madison

Shree Nayar
Columbia University

Eric Breitbach
University of Wisconsin-Madison

Single-Photon 3D Imaging with Deep Sensor Fusion

David B. Lindell
Matthew O'Toole
Gordon Wetzstein
Stanford University

End-to-end Optimization of Optics and Image Processing for Achromatic Extended Depth of Field and Super-Resolution Imaging

Vincent Sitzmann
Steven Diamond
Stanford University

Yifan Peng
The University of British Columbia, Stanford University

Xiong Dun
KAUST

Stephen Boyd
Stanford University

Wolfgang Heidrich
KAUST

Felix Heide
Gordon Wetzstein
Stanford University

Megapixel Adaptive Optics: Towards Correcting Large-Scale Distortions in Computational Cameras

Congli Wang
Qiang Fu
Xiong Dun
Wolfgang Heidrich
KAUST

(24) Decision & Style Wednesday, 15 August, 2-3:30 PM

FontCode: Embedding Information in Text Documents Using Glyph Perturbation

Chang Xiao
Columbia University

Cheng Zhang
University of California, Irvine

Changxi Zheng
Columbia University

What Characterizes Personalities of Graphic Designs?

Nanxuan Zhao
Ying Cao
Rynson Lau
City University of Hong Kong

Scale-Aware Black-and-White Abstraction of 3D Shapes

You-En Lin
National Tsing Hua University

Yong-Liang Yang
University of Bath

Hung-Kuo Chu
National Tsing Hua University

Perception-Driven Semi-Structured Boundary Vectorization

Shayan Hoshiyari
Edoardo Alberto Dominici
Alla Sheffer
University of British Columbia

Nathan Carr
Zhaowen Wang
Duygu Ceylan
Adobe

I-Chao Shen
National Taiwan University

(25) Deep Thoughts on How Things Move Wednesday, 15 August, 2-3:30 PM

Fast and Deep Rig Deformation Approximations

Stephen W. Bailey
University of California, Berkeley

Dave Otte
Paul DiLorenzo
DreamWorks Animation

James F. O'Brien
University of California, Berkeley

Numerical Coarsening Using Discontinuous Shape Functions

Jiong Chen
Hujun Bao
Tianyu Wang
Zhejiang University

Mathieu Desbrun
California Institute of Technology

Jin Huang
Zhejiang University

Magnetization Dynamics for Magnetic Object Interactions

Seung-Wook Kim
Sun Young Park
JungHyun Han
Korea University

Stable Neo-Hookean Flesh Simulation

Breannan Smith
Fernando de Goes
Theodore Kim
Pixar

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(26) Perception & Haptics
Wednesday, 15 August, 3:45-5:15 PM

Visual Rhythm and Beat

Abe Davis
 Maneesh Agrawala
 Stanford University

Perception-Aware Modeling and Fabrication of Digital Drawing Tools

Michal Piovarci
 Università della Svizzera italiana; Saarland University,
 MMCI / MPI Informatik

David I.W. Levin
 University of Toronto

Danny M. Kaufman
 Adobe Research

Piotr Didyk
 Università della Svizzera italiana; Saarland University,
 MMCI / MPI Informatik

A Quantitative Perceptual Model for Tactile Roughness

Chelsea Tymms
 New York University

Esther P. Gardner
 New York University School of Medicine

Denis Zorin
 New York University

Dataset and Metrics for Predicting Visible Differences

Krzysztof Wolski
 MPI Informatik

Daniele Giunchi
 University College London

Nanyang Ye
 University of Cambridge

Piotr Didyk
 Saarland University, MMCI; Università della Svizzera italiana

Karol Myszkowski
 MPI Informatik

Radoslaw Mantiuk
 West Pomeranian University of Technology

Hans-Peter Seidel
 MPI Informatik

Anthony Steed
 University College London

Rafal Mantiuk
 University of Cambridge

(27) Learning for Rendering and Material Acquisition
Wednesday, 15 August, 3:45-5:35 PM

Denoising with Kernel Prediction and Asymmetric Loss Functions

Thijs Vogels
 Fabrice Rousselle
 Brian McWilliams
 Gerhard Röhlin
 Disney Research

Alex Harvill
 Pixar Animation Studios

David Adler
 Walt Disney Animation Studios

Mark Meyer
 Pixar Animation Studios

Jan Novák
 Disney Research

Bayesian Online Regression for Adaptive Direct Illumination Sampling

Petr Vevoda
 Charles University, Prague / Render Legion, a.s.

Ivo Kondapaneni
 Charles University, Prague

Jaroslav Krivanek
 Charles University, Prague / Render Legion, a.s.

Deep Image-Based Relighting from Optimal Sparse Samples

Zexiang Xu
 University of California, San Diego

Kalyan Sunkavalli
 Sunil Hadap
 Adobe Research

Ravi Ramamoorthi
 University of California, San Diego

Efficient Reflectance Capture Using an Autoencoder

Kaizhang Kang
 Zimin Chen
 State Key Lab of CAD&CG, Zhejiang University

Jiaping Wang
 Sinovation Ventures

Kun Zhou
 Hongzhi Wu
 State Key Lab of CAD&CG, Zhejiang University

Single-Image SVBRDF Capture with a Rendering-Aware Deep Network

Valentin Deschaintre
 Optis; Inria, Université Nice Côte d'Azur

Miika Aittala
 Frédo Durand
 Massachusetts Institute of Technology

George Drettakis
 Adrien Bousseau
 Inria, Université Nice Côte d'Azur

(28) Textiles & Microstructures
Wednesday, 15 August, 3:45-5:35 PM

Polyhedral Voronoi Diagrams for Additive Manufacturing

Jonàs Martínez
 Samuel Hornus
 Haichuan Song
 Sylvain Lefebvre
 Inria

Automatic Machine Knitting of 3D Meshes

Vidya Narayanan
 Lea Albaugh
 Jessica Hodgins
 Carnegie Mellon University

Stelian Coros
 ETH Zurich, Carnegie Mellon University

James McCann
 Carnegie Mellon University

Stitch Meshing

Kui Wu
 University of Utah

Xifeng Gao
 Zachary Ferguson
 Daniele Panozzo
 New York University

Cem Yuksel
 University of Utah

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Physics-Inspired Garment Recovery from a Single-View Image

Shan Yang
University of North Carolina at Chapel Hill, Google Research

Zherong Pan
Tanya Amert
Ke Wang
Licheng Yu
Tamara Berg
University of North Carolina, Chapel Hill

Ming C. Ling
University of Maryland - College Park, University of North Carolina, Chapel Hill

Woven Fabric Model Creation from a Single Image

Giuseppe Claudio Guarnera
Norwegian University of Science and Technology (NTNU)

Peter Hall
University of Bath

Alain Chesnais
KiSP Inc.

Mashhuda Glencross
SwitchThat Technologies Ltd

THURSDAY, 16 AUGUST

(29) Design
Thursday, 16 August, 9-10:30 AM

Computational Design of Transforming Pop-Up Books

Nan Xiao
Department of Computer Science and Technology, Tsinghua University

Zhe Zhu
Department of Computer Science and Technology, Tsinghua University & Duke University

Ralph R. Martin
School of Computer Science and Informatics, Cardiff University

Kun Xu
Jia-Ming Lu
Shi-Min Hu
Department of Computer Science and Technology, Tsinghua University

Interactive Exploration of Design Trade-Offs

Adriana Schulz
Harrison Wang
Massachusetts Institute of Technology

Eitan Grinspun
Columbia University

Justin Solomon
Wojciech Matusik
Massachusetts Institute of Technology

Autocomplete 3D Sculpting

Mengqi Peng
The University of Hong Kong

Jun Xing
USC Institute for Creative Technologies

Li-Yi Wei
Adobe Research, The University of Hong Kong

FoldSketch: Enriching Garments with Physically Reproducible Folds

Minchen Li
Alla Sheffer
The University of British Columbia

Eitan Grinspun
Columbia University

Nicholas Vining
The University of British Columbia

(30) New Additions (and Subtractions) to Fabrication

Thursday, 16 August, 9-10:30 AM

Support-Free Volume Printing by Multi-Axis Motion

Chengkai Dai
Charlie C. L. Wang
TU Delft

Chenming Wu
Tsinghua University

Sylvain Lefebvre
INRIA

Guoxin Fang
TU Delft

Yong-Jin Liu
Tsinghua University

CoreCavity: Interactive Shell Decomposition for Fabrication with Two-Piece Rigid Molds

Kazutaka Nakashima
The University of Tokyo

Thomas Auzinger
IST Austria

Emmanuel Iarussi
CONICET, IST Austria

Ran Zhang
IST Austria

Takeo Igarashi
The University of Tokyo

Bernd Bickel
IST Austria

Metamolds: Computational Design of Silicone Molds

Thomas Alderighi
ISTI - CNR, University of Pisa

Luigi Malomo
Daniela Giorgi
ISTI - CNR

Nico Pietroni
University of Technology Sydney, ISTI - CNR

Bernd Bickel
IST Austria

Paolo Cignoni
ISTI - CNR

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DSCarver: Decompose-and-Spiral-Carve for Subtractive Manufacturing

Haisen Zhao
Shandong University

Hao (Richard) Zhang
Simon Fraser University

Shiqing Xin
Yuanmin Deng
Changhe Tu
Shandong University

Wenping Wang
University of Hong Kong

Daniel Cohen-Or
Tel Aviv University

Baoquan Chen
Shandong University

(31) Pipelines and Languages for the GPU

Thursday, 16 August, 9-10:30 AM

Scanner: Efficient Video Analysis at Scale

Alex Poms
Carnegie Mellon University

Will Crichton
Pat Hanrahan
Kayvon Fatahalian
Stanford University

Differentiable Programming for Image Processing and Deep Learning in Halide

Tzu-Mao Li
Michael Gharbi
MIT CSAIL

Andrew Adams
Facebook

Fredo Durand
MIT CSAIL

Jonathan Ragan-Kelley
University of California, Berkeley, Google

A High-Performance Software Graphics Pipeline Architecture for the GPU

Michael Kenzel
Bernhard Kerbl
Dieter Schmalstieg
Markus Steinberger
Graz University of Technology, Institute of Computer Graphics and Vision

Slang: Language Mechanisms for Extensible Real-Time Shading Systems

Yong He
Carnegie Mellon University

Kayvon Fatahalian
Stanford University

Tim Foley
NVIDIA

(32) Animation Control

Thursday, 16 August, 10:45 AM-12:15 PM

Learning Basketball Dribbling Skills Using Trajectory Optimization and Deep Reinforcement Learning

Libin Liu
DeepMotion Inc.

Jessica Hodgins
Carnegie Mellon University

DeepMimic: Example-Guided Deep Reinforcement Learning of Physics-Based Character Skills

Xue Bin Peng
Pieter Abbeel
Sergey Levine
University of California, Berkeley

Michiel van de Panne
University of British Columbia

Learning Symmetric and Low-Energy Locomotion

Wenhao Yu
Greg Turk
Cheng-Yun Karen Liu
Georgia Institute of Technology

Mode-Adaptive Neural Networks for Quadruped Motion Control

He Zhang
Sebastian Starke
Taku Komura
University of Edinburgh

Jun Saito
Adobe Research

T-Junctions in Spline Surfaces

Kestutis Karr
Vilnius University
Daniele Panozzo
New York University
Jorg Peters
University of Florida

(33) Disorder Matter: From Shells to Rods and Grains

Thursday, 16 August, 10:45 AM-12:35 PM

Physical Simulation of Environmentally Induced Thin Shell Deformation

Hsiao-yu Chen
Arnav Sastry
University of Texas at Austin

Wim M. van Rees
Massachusetts Institute of Technology

Etienne Vouga
University of Texas at Austin

A Material Point Method for Thin Shells with Frictional Contact

Qi Guo
Xuchen Han
Chuyuan Fu
Theodore Gast
University of California, Los Angeles

Rasmus Tamstorf
Walt Disney Animation Studios

Joseph Teran
University of California, Los Angeles

Mechanical Characterization of Structured Sheet Materials

Christian Schumacher
Disney Research, ETH Zurich

Steve Marschner
Cornell University

Markus Gross
Disney Research, ETH Zurich

Bernhard Thomaszewski
Université de Montréal

Animating Fluid Sediment Mixture in Particle-Laden Flows

Ming Gao
University of Wisconsin, Madison

Andre Pradhana
University of Pennsylvania

Xuchen Han
Qi Guo
University of California, Los Angeles

Grant Kot
Phosphorus

Eftychios Sifakis
University of Wisconsin, Madison

Chenfanfu Jiang
University of Pennsylvania

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A Moving Least Squares Material Point Method with Displacement Discontinuity and Two-Way Rigid Body Coupling

Yuanming Hu
Massachusetts Institute of Technology

Yu Fang
Tsinghua University

Ziheng Ge
University of Science and Technology of China

Ziyin Qu
University of Pennsylvania

Yixin Zhu
University of California, Los Angeles

Andre Pradhana
Chenfanfu Jiang
University of Pennsylvania

(34) Shape Analysis
Thursday, 16 August, 10:45 AM-12:35 PM

Semi-Supervised Co-Analysis of 3D Shape Styles from Projected Lines

Fenggen Yu
Yan Zhang
Nanjing University

Kai Xu
National University of Defense Technology

Ali Mahdavi Amiri
Hao Zhang
Simon Fraser University

Predictive and Generative Neural Networks for Object Functionality

Ruizhen Hu
Zihao Yan
Jingwen Zhang
Shenzhen University

Oliver van Kaick
Carleton University

Ariel Shamir
The Interdisciplinary Center

Hao (Richard) Zhang
Simon Fraser University

Hui Huang
Shenzhen University

Discrete Time Evolution Process Descriptor for Shape Analysis and Matching

Simone Melzi
University of Verona

Maks Ovsjanikov
Ecole Polytechnique

Giorgio Roffo
University of Glasgow

Marco Cristani
Umberto Castellani
University of Verona

P2P-NET: Bidirectional Point Displacement Net for Shape Transform

Kangxue Yin
Simon Fraser University

Hui Huang
Shenzhen University

Daniel Cohen-Or
Tel Aviv University

Hao (Richard) Zhang
Simon Fraser University

Methodology for Assessing Mesh-Based Contact Point Methods

Kenny Erleben
University of Copenhagen

(35) An Atlas for the World and Other Surfaces

Thursday, 16 August, 2-3:30 PM

Box Cutter: Atlas Refinement for Efficient Packing via Void Elimination

Max Limper
Fraunhofer IGD, TU Darmstadt

Nicholas Vining
Alla Sheffer
University of British Columbia



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Gradient-Domain Processing Within a Texture Atlas

Fabian Prada
Misha Kazhdan
Johns Hopkins University

Ming Chuang
PerceptIn Inc.

Hugues Hoppe
Google Inc.

Generalized Motorcycle Graphs for Imperfect Quad-Dominant Meshes

Nico Schertler
TU Dresden

Daniele Panozzo
New York University

Stefan Gumhold
TU Dresden

Marco Tarini
ISTI, CNR

Variational Surface Cutting

Nicholas MW Sharp
Carnegie Mellon University

Keenan M. Crane
Carnegie Mellon University

(36) Fabrication for Color and Motion Thursday, 16 August, 2-3:30 PM

3D Printing Spatially Varying Color and Translucency

Alan Brunton
Can Ates Arikian
Tejas Madan Tanksale
Fraunhofer IGD

Philipp Urban
Fraunhofer IGD, Norwegian University of Science and Technology

Fabricating Reflectors for Displaying Multiple Images

Kaisei Sakurai
DWANGO Co., Ltd., Dwango CG Research

Yoshinori Dobashi
Hokkaido University, Dwango CG Research

Kei Iwasaki
Wakayama University, Dwango CG Research

Tomoyuki Nishita
Hiroshima Shudo University, Dwango CG Research

Computational Design of Nanostructural Color for Additive Manufacturing

Thomas Auzinger
Institute of Science and Technology Austria

Wolfgang Heidrich
King Abdullah University of Science and Technology

Bernd Bickel
Institute of Science and Technology Austria

Skaterbots: Optimization-Based Design and Motion Synthesis for Robotic Creatures with Legs and Wheels

Moritz Geilinger
Roi Poranne
ETH Zurich

Ruta Desai
Carnegie Mellon University

Bernhard Thomaszewski
Université de Montréal

Stelian Coros
ETH Zurich

(37) Portraits & Speech Thursday, 16 August, 2-3:30 PM

VisemeNet: Audio-Driven Animator-Centric Speech Animation

Yang Zhou
Zhan Xu
University of Massachusetts Amherst

Chris Landreth
University of Toronto

Evangelos Kalogerakis
Subhransu Maji
University of Massachusetts Amherst

Karan Singh
University of Toronto

High-Fidelity Facial Reflectance and Geometry Inference from an Unconstrained Image

Shugo Yamaguchi
Waseda University, USC Institute for Creative Technologies

Shunsuke Saito
University of Southern California, Pinscreen

Koki Nagano
Pinscreen, USC Institute for Creative Technologies

Yajie Zhao
Weikai Chen
USC Institute for Creative Technologies

Kyle Olszewski
University of Southern California, Pinscreen
USC Institute for Creative Technologies

Shigeo Morishima
Waseda University

Hao Li
University of Southern California, Pinscreen,
USC Institute for Creative Technologies

Deep Video Portraits

Hyeongwoo Kim
Max Planck Institute for Informatics

Pablo Garrido
Technicolor

Ayush Tewari
Weipeng Xu
Max Planck Institute for Informatics

Justus Thies
Matthias Niessner
Technical University of Munich

Patrick Perez
Technicolor

Christian Richardt
University of Bath

Michael Zollhöfer
Stanford University

Christian Theobalt
Max Planck Institute for Informatics

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HeadOn: Real-Time Reenactment of Human Portrait Videos

Justus Thies
Technical University of Munich

Michael Zollhöfer
Stanford University

Christian Theobalt
MPI Informatics

Marc Stamminger
University of Erlangen-Nuremberg

Matthias Niessner
Technical University of Munich

(38) Bodies in Motion Human Performance Capture

Thursday, 16 August, 3:45-5:15 PM

Robust Solving of Optical Motion Capture Data by Denoising

Daniel Holden
Ubisoft Divertissements

MonoPerfCap: Human Performance Capture from Monocular Video

Weipeng Xu
 Avishek Chatterjee
 Michael Zollhoefer
Max Planck Institute for Informatics

Helge Jochen Rhodin
EPFL

Dushyant Mehta
 Hans-Peter Seidel
 Christian Theobalt
Max Planck Institute for Informatics

Online Optical Marker-Based Hand Tracking with Deep Labels

Shangchen Han
 Beibei Liu
 Robert Wang
 Yuting Ye
 Christopher D. Twigg
 Kenrick Kin
Facebook Reality Labs

ToonSynth: Example-Based Synthesis of Hand-Colored Cartoon Animations

Marek Dvorožňák
Czech Technical University in Prague

Wilmot Li
 Vladimir G. Kim
Adobe Research

Daniel Sýkora
Czech Technical University in Prague

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The Vrcade is a new space that is a part of the Immersive Pavilion and the Virtual, Augmented and Mixed Reality program. The Vrcade showcases 10 experiences or games that push the boundaries of virtual reality.

The Village is a part of the Immersive Pavilion and the Virtual, Augmented and Mixed Reality program. It is a space where attendees will find the installations that explore the new uses of virtual, augmented and mixed reality.

Immersive Pavilion:

Sunday, 12 August 1:30-5:30 PM
 Monday, 13 August 10 AM-5:30 PM
 Tuesday, 14 August 10 AM-5:30 PM
 Wednesday, 15 August 10 AM-5:30 PM
 Thursday, 16 August 10 AM-3:30 PM

VRCADE

A Show of Kindness

A Show of Kindness is a previously unreleased three-act VR experience through which the user navigates an unfolding story frozen in time, crafted with meticulous detail by concept artist Peter Chan using a custom build of Tilt Brush.

Jeremy Cowles
Tilt Brush by Google

Peter Chan
Tilt Brush Artist in Residence

Tory Voight
 Isabel Parkinson
Tilt Brush by Google

Becoming Homeless: A Human Experience

In this immersive virtual reality experience, spend days in the life of someone who can no longer afford a home. Attempt to save your home and to protect yourself and your belongings as you walk in another's shoes, facing the adversity of living with diminishing resources.

Tobin Asher
 Elise Ogle
 Jeremy Bailenson
Stanford University, Virtual Human Interaction Lab

Fernanda Herrera
Stanford University

Crow: The Legend

Crow: The Legend is a re-telling of a Native American folk tale about a bird with the most dazzling plumage and mellifluous voice, who, after the planet turns dark and cold, must journey far from home to bring light and warmth back to the world.

Larry Cutler
 Eric Darnell
 Nathaniel Dirksen
 Michael Hutchinson
 Scott Peterson
Baobab Studios

Home: A VR Spacewalk

REWIND collaborated with BBC Studios Digital, BBC Studios Science and BBC Learning to create an epic 15-minute immersive virtual reality experience. Home's ambition as a piece of VR is to combine a strong narrative and sense of drama with the incredible impact possible in an immersive experience.

Ben Maltz-Jones
REWIND

I Am A Man Virtual Experience

"I Am A Man" VR Experience is an interactive virtual reality experience set to the historic events of the African- American Civil Rights Movement. Users will witness the 1968 Memphis Sanitation Worker's Strike and the events leading to the assassination of Dr. Martin Luther King, Jr.

Derek Ham
NC State College of Design

Moss

In Moss, the young mouse Quill must embark on an epic journey to save her uncle—and she needs you by her side. Together, you'll travel to forgotten realms, solve challenging puzzles, and battle menacing enemies. Alone, no one can conquer what you're up against. But united, you just may defeat even the darkest of villains.

Lincoln Davis
 Corinne Scrivens
 Rusty Scrivens
 Brendan Walker
Polyarc

Museum of Symmetry

A refreshing and uplifting burst of artistic expression that takes the player through earth, fire, wind and water, Museum of Symmetry disrupts conventional game storytelling to create a unique experience about our relationship to nature and to ourselves.

Paloma Dawkins
 Maral Mohammadian
National Film Board of Canada

Tali Goldstein
CASA RARA STUDIO

The Gallery - Episode 2: Heart of the Emberstone

After receiving your Gauntlet, a mysterious new power in the palm of your hand, you must travel to Ember, a long-forgotten world whose past holds many secrets. Enter the groundbreaking puzzle-exploration game inspired by the mystery of dark 80's fantasy adventure films.

Denny Unger
Cloudhead Games

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Vacation Simulator

▲
 Vacation Simulator is the new original virtual reality game from Owlchemy Labs! First you JOBBED, now you VACATION. Visit Vacation Island and experience RECREATION, optimal RELAXATION, and classic human pastimes like SUNBURN. Vacation Island offers all this and more so that you can discover the lost art of TIME OFF.

Owlchemy Labs

Wolves in the Walls: Chapter 1

▲
 Not everything is at it seems when 8-year old Lucy's imagination proves to be a reality. Wolves in the Walls is an immersive-fable that asks; what would it be like to interact, have a relationship, and go on a quest with a character inside a virtual reality movie?

Pete Billington
 Jessica Shamash
Fable Studio

VILLAGE

1000 Cut Journey

▲
 Achieving racial justice requires that we understand racism. One may espouse beliefs of racial justice and equality, but fail to truly understand the nature of racial inequality. In this immersive virtual reality experience, the viewer becomes Michael, a black man, encountering racism as a young child, adolescent, and young adult.

Courtney D. Cogburn
Columbia University

Jeremy Bailenson
 Elise Ogle
 Tobin Asher
Stanford University

Teff Nichols
The Jewish Board Child Development Center

Aeronaut

▲
 "Aeronaut" is one of the first music experiences to feature a hologram created with Microsoft Mixed Reality Capture. This technology was used to capture Billy Corgan's performance in volumetric video. In this experience users are able to connect with the artist and interact with the world around them.

Bryan Collinsworth
 Karen Singer
 Yan Xuan Justin Ou Yang
 Tomonari Michigami
 David Shiyang Liu
 Rob Ruffler
Viacom

Julie Huynh
 Ken Waagner
 Dave Meeker
 Geoff Cubitt
Isobar

Danny Bittman
Viacom

AnimVR

▲▲
 AnimVR allows users to animate, integrate and share animated assets in Virtual Reality, revolutionizing traditional 3D content production. In AnimVR we leverage the possibilities of VR to enhance the CG Animation pipeline both by translating traditional animation workflows to VR as well as by exploring new ways to tell stories.

Dario Seyb
 Milan Grajetzki
NVRMIND IVS

Grace Chin
 Sasha Wilkinson
University of Massachusetts Lowell

Augmented Reality Game with Unique Semi-Transmissive Rendering Method

▲▲
 This AR game project introduces unique non-photorealistic & real-time rendering methods developed to enhance optical consistency. Through this, seamless blending of virtual and physical content on mobile devices is achieved. Using wireless controllers with muscle displacement sensor, players can move about freely and perform various actions. Multiplayer compatible (WIP).

Daiki Taniguchi
Akatsuki Inc.

Augmented Reality Task Guidance for International Space Station Stowage Operations

▲▲
 Built at NASA Johnson Space Center (JSC) and Columbia University and tested in JSC's full-scale mockup of the International Space Station (ISS), StowageApp is a prototype for the future of conducting cargo operations in space. StowageApp dynamically guides astronauts as they complete stowage tasks, packing and unpacking cargo.

Hiroshi Furuya
Columbia University

Lui Wang
NASA

Carmine Elvezio
 Steven Feiner
Columbia University

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BroadcastAR

▲
BroadcastAR is our large scale, interactive cinematic augmented reality experience. Viewers have the power to gesture control the movement of characters within their experience, creating vibrant crowd engagement. Our BroadcastAR platform has been installed on both indoor and outdoor LED/ projected systems, ranging from retail to museums.

Xava Fragoso
INDE R&D

Chorus

▲
Transform into fantastical female warriors in this social virtual reality experience; six people can band together to battle evil in this epic journey of empowerment, all orchestrated to the song "Chorus" by Justice.

Adam Rogers
Gentle Manhands

Collaborative Exploration of Urban Data in Virtual and Augmented Reality

▲
From emergency planning to real estate, many domains can benefit from collaborative exploration of urban environments in VR and AR. We have created an interactive experience that allows multiple users to explore live datasets in context of an immersive scale model of the urban environment with which they are related.

Carmine Elvezio
Frank Ling
Jen-Shuo Liu
Columbia University

Barbara Tversky
Teachers College

Steven Feiner
Columbia University

Coral Vr

▲
Coral is an interactive Fractal explorer. Dive into the procedural art piece to enjoy the power and beauty of mathematics visualized in virtual reality. It was initially a passion project at framestore that is now in public beta.

Johannes Saam
Framestore

Cycles

▲
Cycles is a VR short film centered around the true meaning of creating a home and the life it holds inside it's walls.

Jeff Gipson
Disney Animation Studios

Demonstration of Gaze-Aware Video Streaming Solutions for Mobile VR

▲
This demo features Smart Eye-tracking Enabled Networking (SEEN), a novel content delivery method for optimizing 360-video streaming. SEEN relies on eye-gaze information from novel 5G-networked eye-trackers to stream high-quality, in real-time, only in proximity of fixations points. SEEN technology is developed in a joint project between KTH, Tobii and Ericsson.

Pietro Lungaro
Firdose Saeik
Konrad Tollmar
Royal Institute of Technology - KTH

ELI in VR: Embodied Limbic Interaction for Piloting a Virtual Hang-Glider

▲
A head-mounted display, a stationary control bar, and a limbic chair allow for a user to pilot a hang-glider in VR.

Kenan Bektaş
University of Zurich and ETH Zurich; ZHAW, Zurich

Mark Adriaan van Raai
Limbic Life AG

Tyler Thrash
University of Zurich and ETH Zurich

Patrik Künzler
Limbic Life AG

Richard Hahnloser
University of Zurich and ETH Zurich

Elastic Time

▲
Mixed reality documentary about space-time narrated by astronomer Tony Stark. Your own holographic body is captured and integrated in real time into a telescope room. You bend space and time to your will, creating black-holes, worm-holes and time portals. This volumetric documentary is powered by IMVERSE proprietary voxel-based graphics engine.

Javier Bello Ruiz
Robin Mange
Imverse SA

Mark Boulos
VCUarts

Fire Escape: An Interactive Series

▲
When the clock strikes eight in Brooklyn, a suspenseful drama begins to unfold in real time. Audiences can interact and peer into the lives of eight disenfranchised tenants entangled in a murder, and must embrace their voyeuristic tendencies in this rich and unique interactive series to reveal a gripping truth.

Vassiliki Khonsari
Navid Khonsari
Andres Perez-Duarte
Sam Butin
iNK Stories

IKEA Immerse Interior Designer

▲
IKEA Immerse is available in selected IKEA stores in Germany. This application enables consumers to create, experience and share their own configurations in a virtual living and kitchen room set. With seamless ecommerce integration, a high level of detail and real-time interaction, the VR experience represents an engaging, valuable touchpoint.

Tobias Soffner
Florian Gläser
Demodern GmbH

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Multiplayer Augmented Reality: The Future is Social, Presented by Niantic

▲ We take AR to the next level by enabling multiple mobile devices to experience the same AR objects in real-time! Watch people play pong against each other, where the ball and paddles exist in AR for all users. Shared AR experiences is essential for keeping AR mainstream in the future.

Si ying Diana Hu
Niniane Wang
Niantic, Inc.

Queerskins: A Love Story

▲ In this haptic cinematic VR experience, a diary and a box of belongings offers you and a devoutly Catholic mother living in rural Missouri in 1990 a chance to know Sebastian, the estranged son she has lost to AIDS. How will you choose to reconstruct him and his life?

Illya Szilak
Fancy Rainbow

Cyril Tsiboulski
Cloudred

Sherpa - The Helping Hands of the Himalaya

▲ Four players start a journey helping their tourists climb a mountain. During the game, they receive support from real Sherpas, who also tell stories about their daily life. A journey about exploring and getting to know the local culture, on a plexiglass installation combining VR technology and projection mapping.

Dimosthenis Gkantzos
Christian Greitmann
Martin Koegel
Filmakademie Baden-Wuerttemberg GmbH

Tales of the Wedding Ring

▲ Square Enix is creating a VR specific format for Japanese manga storytelling. Their first title, "Tales of Wedding Rings" utilizes "LiveWindow" technology to replicate the look and feel of manga frame based storytelling, and allows the user to literally "step inside the story."

Kaei Sou
Remi Driancourt
Team Hikari
Square Enix Co., Ltd.

The AI Powered Magic Mirror: Building Immersive AR/VR Experiences with Only Webcams and Deep Learning

▲ wrnch uses AI to teach webcams to read human body language. The wrnch Magic Mirror enables people to walk up to ordinary TV monitors and beamed into cyberspace. From this digitization, users can see themselves as a variety of avatars including a virtual motion capture artist and digital chicken.

Paul Kruszewski
Thomas Jan Mahamad
wrnch

VIVO Lifelike Reactive Characters for VR

▲ Characters are the true soul of any story. Using our proprietary tech VIVO we create VR characters who are not only believable but amazingly responsive and real. VIVO turns character interactions into powerfully immersive, natural experiences. Designed from the ground up to build the next-gen VR movies and games.

Joaquin Ruiperez
Gonzalo Ruiperez
ESTUDIOFUTURE

Voyage

▲ Voyage is a multiuser mobile virtual reality (VR) experience for Google Daydream that allows students to go on virtual field trips in which they immersively explore a deciduous forest biome. The experience is designed to be undertaken in a middle-school classroom and facilitated by a teacher using a tablet computer.

Sharan Shodhan
Julian Korzeniowski
Rajeev Mukundan
Na-yeon Kim
Sijia He
Carnegie Mellon University

Mark J.W. Lee
Charles Sturt University

We AR Sight: An Open Source Augmented Reality Wearable Device to Assist Visually Impaired Individuals

▲ As the field of Wearable Computing and Augmented Reality progressed, very few inexpensive solutions to augment the reality of the visually impaired have been witnessed. We present an interactive demonstration of open-source augmented reality wearable device that assists visually impaired individuals by providing them with smart vision via auditory feedback.

Sarang Nerkar
Ambarish Gurjar
Innosapient Technologies Pvt. Ltd., Nerkar Education and Research Trust

Welcome to Light Fields

▲ Light Fields let us experience freedom of motion and realistic reflections and translucence like never before in VR. Explore the Gamble House, Mosaic Tile House, and Space Shuttle Discovery. These navigable light field stills showcase the emerging technology Google is using to power its next generation of VR content.

Ryan S. Overbeck
Daniel Erickson
Daniel Evangelakos
Paul Debevec
Google Inc.

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ACM SIGGRAPH SUNDAY WORKSHOPS

New this year, ACM SIGGRAPH presents full day Sunday workshops on topics related to future applications of computer graphics and interactive techniques. *Pre-registration is required.*



SUNDAY, 12 AUGUST

12 August, 9 AM-5 PM

Grand Challenges in Chronic Healthcare

The purpose of this workshop is to raise awareness, highlight challenges, and focus on research and partnership opportunities in the area of healthcare for chronic conditions. We will bring together researchers and practitioners in a variety of areas in healthcare to understand and discuss the research challenges relevant to the SIGGRAPH community, as well as the advanced development issues in healthcare.

Dr. Jose Barral
University of Texas Medical Branch

Chris Khoury
American Medical Association

Abner Mason
ConsejoSano

Patrick Wayte
Center for Health Technology & Innovation

Computer Graphics for Autonomous Driving Applications

The goal of this workshop is to bring together researchers and practitioners of both autonomous driving and computer graphics fields to discuss the open challenges that must be addressed in order to accelerate the deployment of safe and reliable autonomous vehicles. Speakers with experience on the use of simulation and computer graphics for autonomous driving will be invited to share their work and insights regarding upcoming research challenges.

Jose M Alvarez
NVIDIA

Jose De Oliveira
Unity

Miguel Ferreira
CVEDIA

Ming C. Lin
University of Maryland, College Park

Dinesh Manocha
University of Maryland, College Park

German Ros
Intelligent Systems Lab, Intel

Philipp Slusallek
Saarland University

Truth in Images, Videos, and Graphics

The goal of this inaugural workshop is to bring together researchers and practitioners in all aspects of media creation to understand the challenges as tools for manipulation are made available widely. We will discuss the tools and the issues around how these technologies impact society, and reflect on the responsibilities of both the technology creators and users of these technologies. The format of this workshop will include invited speakers to set the stage for this conversation.

Alyosha Efros
University of California, Berkeley

Irfan Essa
Georgia Institute of Technology

Hany Farid
Dartmouth College

Ira Kemelmacher-Shlizerman
University of Washington

Hao Li
Pinscreen, Inc.

12 August, 9 AM-4:30 PM

Diversity and Inclusion: The Key to a Successful Future, or the Next Step Toward Imminent Failure

Diversity and inclusion have become buzzwords, not only in North America but around the world. But what do they actually mean? Why does diversity and inclusion matter when it comes to the world of computer graphics and interactive techniques?

This session examines the concepts of diversity and inclusion to include interactive presentations and panels. We will examine what D&I really means and the concept of unconscious bias and how our brains work. We will help attendees understand how a focus on diversity and inclusion in their workplaces can lead to more productive and engaged employees.

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

For an updated list of the Birds of a Feather sessions, visit:

<https://s2018.siggraph.org/conference/conference-overview/birds-of-a-feather/>



SUNDAY, 12 AUGUST

9-11 AM

Virtual Reality in Education



10-11 AM

International collegiate Virtual Reality Contest (IVRC)



12:30-2 PM

Demoscene Underground Real-Time Art Worldwide



2-3:30 PM

Blender Foundation



2-3:30 PM

Educator's Reception



3:30-4:30 PM

Blender Spotlight



4-4:30 PM

Spanish Speakers in Animation and VFX Meetup

9-11 PM

Taipei ACM SIGGRAPH Chapter Reunion (a.k.a. Taiwan Night)

MONDAY, 13 AUGUST

9-11 AM

Immersive Visualisation for Research, Science and Art



10:30 AM-12 PM

Massive Collaborative Animation Projects



10:30 AM-12 PM

MaterialX: An Open Standard for Network-Based CG Object Looks



12-1:30 PM

ACM SIGGRAPH Cartographic Visualization (Carto) (BOF)

12:30-1:30 PM

Meet the Candidates for the ACM SIGGRAPH Executive Committee

1-2 PM

Open Shading Language



3-5 PM

Web3D Korea Chapter Standardization Meeting

3:30-4:30 PM

ACM SIGGRAPH Discussion of New Communities and New Frontiers



3:30-4:30 PM

AliceVision: an Open Source Photogrammetry Pipeline in Visual Effects Production

3:30-4:30 PM

The Massive Collaborative Animation Projects & the Student Experience

3:30-5 PM

Cryptomatte - Present and Future Uses

3:30-5:30 PM

OpenVDB

5:30-8:30 PM



UW CSE Reunion Gathering

6-8 PM

The 31st Anniversary, Kawaguchi's Sake Party at SIGGRAPH

Registration Level:

● Full Conference Platinum
 ● Full Conference
 ● Select Conference
 ● Exhibits Plus
 ● Exhibits Only
 ● Exhibitors
 ● Business Symposium

Interest Areas:

■ Production & Animation
 ● Research & Education
 ◆ Arts & Design
 ● Gaming & Interactive
 ▲ New Technologies

TUESDAY, 14 AUGUST

10-11:30 AM

Emphasizing Empathy in the Pipeline Process



10-11:30 AM

Leonardo: Where Ideas Don't Take Sides



10:30-11:30 AM

OpenEXR

10:30 AM-12 PM

CesiumJS: 3D Globes on the Web



10:30 AM-12:30 PM

VR/MR/AR 4 Good: Creating with a Purpose



11 AM-12 PM

Internships and Related Curriculum

12-1:30 PM

Bridging the Gap: VFX/Anim Production Scheduling & Software Dev/Rollout - Open Discussion



1-2 PM

Maps, Urban Data, and Geocoding in Graphics



1-2 PM

OpenColorIO Meetup



1-2 PM

Teaching Virtual Reality



1:30-2:30 PM

Sharing Ideas in Teaching 3D Animation



2-3 PM

Going Cloud Native



2-4 PM

State of Animation Tools in the Industry

3-4 PM

Cloud Rendering



3-4 PM

OpenTimelineIO: Official Open-source Meet Up



3-4:30 PM

Autonomous Driving Simulation and Visualization



3:30-4:30 PM

Online Collaboration with Virtual Studio Production



4-6 PM

USD and OpenSubdiv: Official Open-source Meet Up



4:30-5:30 PM

Renderfarming



5:30-7 PM

Dynamic Simulation in Production



6-11 PM

StudioSysAdmins 10 Year Anniversary Studio Mingle

WEDNESDAY, 15 AUGUST

9-10 AM

Paving the Way: Digital Art at SIGGRAPH 1980 - 1999



9-10 AM

Khronos Fast Forward



10-11 AM

Openscenegraph BOF



10-11 AM

glTF: Efficient 3D Models



10 AM-12 PM

Creating Compelling CG Worlds at the Jet Propulsion Laboratory



10:30 AM-12 PM

Motion Capture Society



10:30-12:30 AM

SIGGRAPH50 2023 - Start Planning for the 50th Conference

11 AM-12 PM

Gaffer : Open Source Lookdev, Lighting, and Automation

11 AM-12 PM

Immersive Media (BOF)

11 AM-12 PM

WebGL: Latest Techniques



11 AM-12:30 PM

Design Printing and Scanning: Web3D Makers Making More!



Registration Level:

● Full Conference Platinum
 ● Full Conference
 ● Select Conference
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 ● Exhibits Only
 ● Exhibitors
 ● Business Symposium

Interest Areas:

■ Production & Animation
 ● Research & Education
 ◆ Arts & Design
 ● Gaming & Interactive
 ▲ New Technologies

12-1 PM

Mobile VR/AR Meetup



12:30-1:30 PM

VFX Reference Platform - A Common Target for Building VFX Software

12:30-2 PM

Berthouzoz Women in Research Lunch



12:30-2 PM

ISEA International - Open Forum



12:30-2 PM

Material Definition Language (MDL): Application Independent PBR Materials



12:30-2 PM

WebVR Evolution for a Larger Web



1-1:30 PM

Make a Difference - Get Involved with the SIGGRAPH Education Committee

1-2 PM

Standardizing All the Realities: A Look at OpenXR



2-3 PM

DCAJ Presentation "Advanced Content Technology in Japan"

2-3 PM

It's Time to Kill the Demo Reel

2-3:30 PM

British Columbia Virtual and Augmented Reality BOF Gathering



2-3:30 PM

Computer Graphics for Simulation (BOF)



2-3:30 PM

Scaling Up 3D Medical Applications for People Everywhere



2-5:30 PM

3D Graphics with Vulkan and OpenGL



4-4:30 PM

Florida Animation, Games, & Computer Graphics Community

4-5 PM

Undergraduate Research Alliance



4-5 PM

HLSL Realtime Shading Language

4-6 PM

ACCAD / Ohio State University Gathering



5:30-8:30 PM

Khronos Networking Reception

THURSDAY, 16 AUGUST

—

12:30-2 PM

French Schools Screening



Registration Level:

● Full Conference Platinum
 ● Full Conference
 ● Select Conference
 ● Exhibits Plus
 ● Exhibits Only
 ● Exhibitors
 ● Business Symposium

Interest Areas:

■ Production & Animation
 ● Research & Education
 ◆ Arts & Design
 ● Gaming & Interactive
 ▲ New Technologies

ACM SIGGRAPH THEATER EVENTS

Informative international sessions on the current state of computer graphics around the world, organized by representatives of ACM SIGGRAPH and affiliated societies.



SUNDAY, 12 AUGUST

11:30 AM-12:30 PM

CG in Australasia - Developing Links Between Industry and Higher Education in CG

2-3 PM

SIGGRAPH in Japanese + Japan CG Showcase

3-4:30 PM

Open Forum of the ACM SIGGRAPH Digital Arts Community

4:30-5:30 PM

SIGGRAPH for Beginners - General View

MONDAY, 13 AUGUST

11 AM-12 PM

CG in Asia: Inside the Asian CG Industry

4-5 PM

Origins of SIGGRAPH: The History of Innovation, Community, and Creative Expression

TUESDAY, 14 AUGUST

9-10:30 AM

Introduction to the Digital Arts Community Online Exhibitions

12-1 PM

CG in Canada: Education to Industry

1-2 PM

Women in CG

2-3:30 PM

Thesis Fast Forward

3:30-4:30 PM

Creative BC - Levering Incentives in Animation, VFX & Film

4:30-5:30 PM

CG in Latin America

WEDNESDAY, 15 AUGUST

9-11 AM

ACM SIGGRAPH Chapters Fast Forward and Startup Meeting

Exhibition Hours:

Tuesday, 14 August, 9:30 AM-6 PM

Wednesday, 15 August 9:30 AM-6 PM

Thursday, 16 August, 9:30 AM-3:30 PM



EXHIBITOR LIST (AS OF 16 MAY)

- | | | | | |
|---|--|--|---|---|
| 3DLOOK | Chengdu Association of trade in services | Google | OptiTrack | Sheridan College |
| 3dMD | Chetu Inc. | Guangdong Virtual Reality Technology Co., Ltd. | OTOY, Inc. | SideFX Software |
| Academy of Art University | Christie Digital Systems | High Fidelity | Panasas | Simple Animation |
| ACM Publications | CIARA Technologies | HoloDigilog Human Media Research Center | Pixel Light Effects | Sketchfab Inc. |
| Advanced Micro Devices (AMD) | Cogswell College | HotCube Co | Pixel Plow | SkyScale |
| Aleph Objects, Inc. | Computer Graphics World | IATSE | Pixomondo LLC | SpeedTree |
| Allegorithmic | Constructive Labs Inc | IncrediBuild Software Ltd. | PNY Technologies | StarVR Corporation |
| Amazon Web Services/ Thinkbox Inc. | Curó/UST Global | InstaLOD | PolarScreens Inc. | The Studio - B&H |
| American Cinematographer | Deep Vision Data | Intel Corporation | Politeknik Negeri Media Kreatif | TechViz |
| AMMANSYSTEMS | DigiPen Institute of Technology | International Computer Concepts (ICC) | PolyPort Inc. | think tank training centre |
| Animation Magazine | Dimensional Imaging (DI4D) | Intraware Australia | PostPerspective | Tobii Pro |
| The Animation Workshop TAW, Via University College | Doubx VR | Isotropix | QNAP, Inc. | Toolchefs Ltd. |
| Ant Studio Inc. | Doxel | Javelin Technologies | The Qt Company | Unity Technologies |
| APY | Drexel University | KeenTools | Qualcomm Incorporated | The University of the Arts |
| Autodesk | Eizo Inc. | LAMPPIX | Qualisys North America | Vancouver Animation School |
| Blackmagic Design | Environmental Systems Research Institute | LaSalle College Vancouver | Quantum Cloud Future | Vancouver Film School |
| Boris FX | Epic Games | Looking Glass | Quantum Corporation | Vancouver Institute of Media Arts (VanArts) |
| Campbell River Creative Industries Council | Facebook | Luxion, Inc. | Qumulo | VectorZero, Inc. |
| Cap Digital - France | FARO Technologies Inc. | Massless | RAVE Computer | Vicon |
| Capilano University | FLIR Systems, Inc. (formerly Point Grey) | MattePaint Pty Ltd. | Realis Multimedia Technology Co., Ltd. (ShenZhen) | Visual College of Art and Design |
| Carbon, Inc. | Flux Planet | MAXON | Reallusion Inc. | Visual Computing Center at KAUST |
| Carnegie Mellon ETC | Formlabs Inc. | Microsoft Corporation | Redshift Rendering Technologies, Inc. | vr-on GmbH |
| CGAL - The Computational Geometry Algorithms Library | Foundry | Moolean Inc | Ringling College of Art and Design | VRSQUARE |
| CG Masters, School of 3D Animation and Visual Effects | FoVI3D | Motion Analysis Corporation | Rotomaker | Wacom Technology |
| CGTrader | frack | Mura Vision | SCAD | Wonder Painter |
| | GAFX Media Private Limited | Nippon Carbide Industries Co., Inc. | Sharecg.com | Wysilab |
| | Gold Array Technology Beijing LLC | NVIDIA Corporation | Shenzhen Rayvision Technology Co., Ltd. | X-Rite Pantone |
| | | Optis | | Xsens Technologies B.V. |

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

EXHIBITOR MEETING ROOM AND SESSIONS (AS OF 19 JULY)



Comprehensive summaries of the latest technologies in computer graphics and interactive techniques. SIGGRAPH 2018 exhibitors demonstrate software, hardware, and systems: answer questions; and host one-on-one conversations about how their applications improve professional and technical performance.

Use the SIGGRAPH 2018 Conference Locator to locate the meeting rooms of the sessions you plan to attend.



ALLEGORITHMIC

Substance Day

Monday, 13 August, 9 AM-5 PM

Join us to learn and share with both the community and world-famous artists, meet the Allegorithmic team, and be the first to know about what is coming up next in the Substance World. Registration and schedule will be available by the end of June on Allegorithmic.com.

AWS/THINKBOX

Cloud Tech Talks

Tuesday, 14 August, 9 AM-5 PM

BINARY ALCHEMY

Cloud Rendering with Royal Render

Wednesday, 5 August, 3:30-4:30 PM

BLUE SKY STUDIOS

Open House/Resume Drop off

Wednesday, 15 August, 10 AM-5 PM

Blue Sky Studios is on the hunt for a few good nuts! We will be hosting an open house and resume drop off, on Wednesday, 15 August. Stop by to say hello and hear about our job opportunities and the exciting projects in the works. The room will be open from 10 am-5 pm, come by at any time to meet us.

CHAOS GROUP

Chaos Group, a worldwide leader in rendering technology, returns to SIGGRAPH with its ever-popular V-Ray Days on 14-15 August in Meeting Room 8 in the East Building. The schedule will be filled with exclusive behind the scenes insight into this year's biggest CGI projects from some of the world's best VFX and design studios, plus there'll be a special update from our CTO Vlado on all things V-Ray. Each hour-long presentation will be unique to V-Ray Days and cannot be filmed. Be sure to check out

chaosgroup.com/siggraph2018

for an up-to-date list of speakers and topics.

Tuesday, 14 August

V-Ray Days: V-Ray Educators' Breakfast - Chaos Group

10-11 AM

Join our Education team for a fun and informative breakfast presentation. You'll find out how Chaos Group's education resources support the entire community from students and freelancers to teachers and business owners. It's also a chance to meet fellow V-Ray users, and to help Chaos Group's experts continue to shape their educational offerings.

V-Ray Days: The New Portrait - Ian Spriggs

11 AM-12 PM

Thanks to advances in rendering technology, skilled artists can now create photorealistic digital humans. But how do we build a real emotional connection with virtual subjects? With a little help from the old masters, Ian will discuss how we need to understand who we are, and what makes us human. He'll also explore the challenges and ideas behind his images, and what it means to create a new genre of portraiture.

V-Ray Days: Blockbuster Showcase - Method Studios

1:15-3 PM

Chris will begin this trio of presentations with a look at the digi-doubles, crowds, vehicles and architectural models in Black Panther's climax. Next, Jim will show how V-Ray's VRScenes made it possible to build a spaceship the size of a solar system for Avengers: Infinity War. Finally, Christian will share his experience lighting and rendering Deadpool, Colossus and Cable for Deadpool 2.

V-Ray Days: Lost in Space: Flying Jellyfish & Alien Landscapes - FuseFX

3-4 PM

Join the FuseFX team as they delve into the creative and technical challenges faced in the production of VFX for Netflix's acclaimed series, Lost in Space. Jon, Richard and Mariusz will demonstrate the evolution of shots through concept to final for the intriguing Robot face, alien digital environments, and the spectacular jellyfish migration scene.

V-Ray Days: Character Design & VFX for Film & VR - ASC

4-5 PM

The ASC team have brought to life some fantastic character concept designs over the past year and in this presentation will showcase their 'sketch-2-screen' process behind work on Spielberg's Ready Player One and the action-packed Rampage. They will also reveal an exclusive peek into a brand new immersive VR experience involving V-Ray for Unreal that you won't want to miss!

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

Wednesday, 15 August

V-Ray Days: Cinematic Worlds: Overview of Creating Game Trailers - RealtimeUK

10-11 AM

Stu will look across multiple projects to get an overview of the design process involved in creating cinematic environments for games trailers. From concept art to the final product, you'll understand the balance between creativity and practicality, alongside potential time and budget restrictions.

V-Ray Days: How V-Ray Conquered Avengers: Infinity War - Digital Domain

11 AM-12 PM

In this exclusive talk, Fernando will demonstrate a detailed breakdown of how V-Ray was used to create the complex CG characters of Avengers: Infinity War - the cameo appearance of Red Skull, our green hero the Hulk and the the starring villain, Thanos.

V-Ray Days: Vlado in Renderland - Chaos Group

2-3 PM

The landscape of CG is ever-evolving. Recent developments in real-time, cloud and GPUs are shaping the future of rendering. In this presentation, Vlado will reveal some of the latest features of Chaos Group's V-Ray, and give an exclusive behind-the-scenes preview of some of the epic attractions under construction for future releases.

V-Ray Days: Large Natural Environments Using V-Ray - ILM

3-4 PM

Creating realistic large-scale natural landscapes like forests, jungles, and rocky terrains is always a challenge for the environment team at ILM. In this presentation, Daniel will show how V-Ray has helped ILM push rendering boundaries to achieve incredibly complex environments for movies such as A Wrinkle in Time and Jurassic World: Fallen Kingdom.

V-Ray Days: VFX Powering Wakanda's Warrior Falls - Scanline VFX

4-5 PM

For Black Panther's most climactic moments, Scanline VFX turned to Flowline and V-Ray to simulate and render the perilous backdrop of Wakanda's Warrior Falls. In this presentation, Ioan will reveal some exclusive breakdowns from these epic scenes involving complex water simulations and panoramic environments.

V-Ray Days: Corona Renderer: Past, Present & Future - Render Legion

5-6 PM

Corona Renderer was commercially released little more than three years ago, and has already influenced some big changes in the architecture visualization industry. In this talk, Corona's main developer Ondra, reviews the original vision of the renderer, where it succeeded, and the challenges he aims to conquer.

DEEP VISION DATA

Synthetic Training Data for Machine Learning Systems

Wednesday, 15 August, 10:30-11:30 AM

Experts say deep learning systems have the potential to be as impactful on our lives as mobile devices, social media or the internet. It recognizes the people you know in your photos, enables your digital assistant to understand what you say, filters spam from your email and will soon drive your car. The potential applications are limitless, but deep learning has a deep secret - it needs training data, and lots of it. And often that data isn't available or is too costly to obtain. This presentation focuses on a novel solution to this "data deficiency" problem: artificial or "synthetic" training data. The author presents several examples where synthetic training data was successfully used to train deep learning systems, and highlights potential future applications.

DISNEY SUITE

Representatives from Walt Disney Animation Studios will be available to share studio news, answer questions, and talk shop. Come by and say hello!

Walt Disney Company

Tuesday, 14 August, 10 AM-12 PM

Tuesday, 14 August, 1-5 PM

Wednesday, 15 August, 1-5 PM

FOUNDRY

Education Summit

Monday, 13 August, 12-2 PM (lunch included)

Lookdev & Lighting Meet-up

Monday, 13 August, 4-6 PM

Breaking Into the VFX industry (Student Panel)

Tuesday, 14 August, 10 AM-12 PM

Innovation in Modeling with Modo

Tuesday, 14 August 1-3 PM

Making the Cloud Work for You: Athera Freelancer Forum

Tuesday, 14 August, 4-6 PM

ISOTROPIX

Clarisse BUIlDER: The Next Revolution in High-End Lighting and Rendering

Tuesday, 14 August, 3:30-4:30 PM

Located at the backend of the VFX and Animation pipeline funnel, lighting artists working in top tier studios have to deal with an increasingly enormous amount of data generated by other departments. To alleviate this problem, we spent 4 years of R&D, in close collaboration with industry experts, to design Clarisse BUIlDER, an all-new solution that empowers lighting artists with the ability to non-destructively perform arbitrary edits at sequence, shot or layer level while working interactively on comped images from a single integrated application.

JELLYFISH PICTURES

Searching Your Image Store Without Needing a PHD: PixStor and Microsoft Cognitive Services

Tuesday, 14 August, 9-10 AM

Registration Level:

● Full Conference Platinum ● Full Conference ● Select Conference ● Exhibits Plus ● Exhibits Only ● Exhibitors ● Business Symposium

MICROSOFT

Searching Your Image Store Without Needing a PHD: PixStor and Microsoft Cognitive Services

Tuesday, 14 August, 9-10 AM

Mr. X, Microsoft Exhibitor Session: Mr. X Production: Workflow Architecture and Operational Elements

Tuesday, 14 August, 10:30-11:30 AM

Human Holograms for Mixed Reality and Beyond

Tuesday, 14 August, 12:30-1:30 PM

What's it Mean to be a Fully Cloud-Based Studio?

Wednesday, 15 August, 12:30-1:30 PM

MPC FILM

MPC Film: Research & Development for the future of film.

Monday, 13 August, 9 AM-5 PM

MPC Film R&D is hosting sessions covering tools, techniques and tactics for handling large-scale VFX. We'll also be hosting studios to talk about areas like USD, virtual production, simulation and more. Go to

mpc-rnd.com/siggraph2018

to learn more and sign up!

MR. X

Tuesday, 14 August, 10:30-11:30 AM

Mr. X, Microsoft Exhibitor Session: Mr. X Production: Workflow Architecture and Operational Elements

NIMBLE COLLECTIVE

Wednesday, 15 August, 12:30-1:30 PM

What's it Mean to be a Fully Cloud-Based Studio?

NVIDIA

Saturday, 11 August, 9:30 AM-5:30 PM

DLI Hands-On Workshops in AI

Join the NVIDIA Deep Learning Institute (DLI) for full-day hands-on workshops in AI for Digital Content Creation and Game Development on Saturday, 11 August. Led by DLI-certified instructors, you'll learn how to design, train, and deploy neural networks to create digital assets and games. The workshops are designed for developers, data scientists, and researchers with experience with CNNs. SIGGRAPH pass is not required to attend.

New Technology Advancements, and Best of GTC and GDC

Sunday, 12 August, 9:30 AM-5:30 PM

NVIDIA will spotlight cutting-edge developments in GPU rendering and AI, along with encore presentations of talks from GTC 2018 and GDC 2018. Join our technical deep dives into groundbreaking advancements that will change the way you work.

NVIDIA Holodeck Tutorial

Monday, 13 August, 9:30 AM-12:30 PM

Holodeck is NVIDIA's advanced technology VR platform. In this tutorial, we will cover all of its major features, including the latest navigation and file import capabilities, and how to build custom Holodeck experiences. We will also include demonstrations from partners using Holodeck to accelerate and enhance their workflows.

GPU Ray Tracing for Film and Design

Tuesday, 14 August, 2-5:30 PM

We will explore recent developments in GPU-accelerated, high-quality, interactive ray tracing to support the visual quality and scene complexity required for visual effects, animation, and design. Presentations will be by NVIDIA and by film rendering leaders from Autodesk, Isotropix, Chaos, Pixar, and Weta Digital.

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

Real-Time Ray Tracing

Wednesday, 15 August, 9:30 AM-12:30 PM

Researchers and engineers from NVIDIA and leading game studios, including Epic Games, EA/SEED, and others, will present state-of-the-art techniques for ray tracing, sampling, and reconstruction in real time. This includes recent advances that promise to dramatically advance the state of ray tracing in games, simulation, and VR applications.

Deep Learning for Real-Time Rendering

Wednesday, 15 August, 2-5 PM

NVIDIA and partners will delve into the latest research for real-time inference, including the use of cuDNN, TensorRT, and Windows ML; enhancing rasterized and ray-traced scenes with deep learning networks; and tightly integrating deep learning into rendering engines.

Deep Learning for Content Creation

Thursday, 16 August, 9:30 AM-12:30 PM

Join NVIDIA's top researchers, including Vice President of Applied Deep Learning Research Bryan Catanzaro, for an examination of the novel ways deep learning and machine learning can supercharge content creation. Speakers will cover pipelines and aspects of content creation for films, games, and advertisements.

PANASAS, INC

Immersive, AR/VR Workflows: Mastery and Optimization

Tuesday, 14 August, 2-3 PM

Presenter: RW Hawkins, Storage Systems Engineer - Panasas, Inc.

Co-Presenter: Michael Garza, Senior Planetarium & Production Engineering Manager - California Academy of Sciences

PIXAR ANIMATION STUDIOS

Women of Pixar Panel: Technology

Tuesday, 14 August, 11 AM-12 PM

RenderMan 22: Incredible Artist Workflows

Tuesday, 14 August, 1-2 PM

OpenTimelineIO: Official Open-Source Meet Up

Tuesday, 14 August, 3-4 PM

USD and OpenSubdiv: Official Open-source Meet Up

Tuesday, 14 August, 4-6 PM

A Collaboration Between Art & Tech: Layout

Wednesday, 15 August, 11 AM-12 PM

RenderMan 22: Working With Next Generation VFX Pipelines

Wednesday, 15 August, 1-2 PM

From Pixar Intern to Technical Director with Christina Faraj

Wednesday, 15 August, 3-4 PM

PIXIT MEDIA

Searching Your Image Store Without Needing a PHD: PixStor and Microsoft Cognitive Services

Tuesday, 14 August, 9-10 AM

QUMULO

Making Informed and Proactive Decisions About Storage Utilization

Wednesday, 15 August, 2-3 PM

SHOTGUN SOFTWARE (AUTODESK)

Autodesk Vision Series

Join us for the 5th annual Autodesk Vision Series! Two full days of studio-driven presentation and deep dives will explore the workflows and mastery behind the year's biggest blockbusters, the latest industry trends, and vision for the future.

Introduction to Shotgun Development

Monday, 13 August 9-10 AM

An introduction to Shotgun development and the various APIs and integrations that are available. What will attendees know after this session?

- What APIs and integrations are available on the Shotgun Platform
- Which technology is right for a given production scenario
- How to query/find data using Shotgun's filter syntax
- How to use the Shotgun Python, REST APIs, Action Menu Items, and Event Daemon

Toolkit Administration

Monday, 13 August, 10:30 AM-12 PM

Learn how to take over our integrations and make them do what you want. Out of the box our integrations with products like Maya, Nuke, Houdini, and Photoshop allow for basic software launching and file sharing, but their true power is unleashed once you take control of the configuration and provide a custom directory structure and hooks to automate more of the data flow in your studio. What will attendees know after this session?

- How Shotgun Desktop works and what is available via the basic pipeline integrations
- How to take over a configuration and customize app UIs and configuration settings
- How to take over and customize hooks and actions

Advance Shotgun Development

Monday, 13 August, 1:30-3 PM

Learn how to control how our integrations behave and harness the power of our Toolkit platform to make building a pipeline easier. What will attendees know after this session?

- How to develop, package up, and distribute toolkit configurations to a remote user base
- How to develop and distribute custom toolkit apps
- How to leverage the standard toolkit frameworks for UI and data management
- What the Autodesk Forge ecosystem is and how it can be used with Shotgun

Shotgun Ecosystem User Group

Monday, 13 August, 3:30-4:30 PM

Join us to hear about our recent developments and our upcoming plans. We also want to hear what your top priorities are, what we should fix, and what features you'd like to see to make Shotgun a more useful platform to build on.

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

UNITY TECHNOLOGY

Tuesday, 14 August, 9 AM-5 PM
Wednesday, 15 August, 9 AM-5 PM
Thursday, 16 August, 9 AM-5 PM

ZOOX

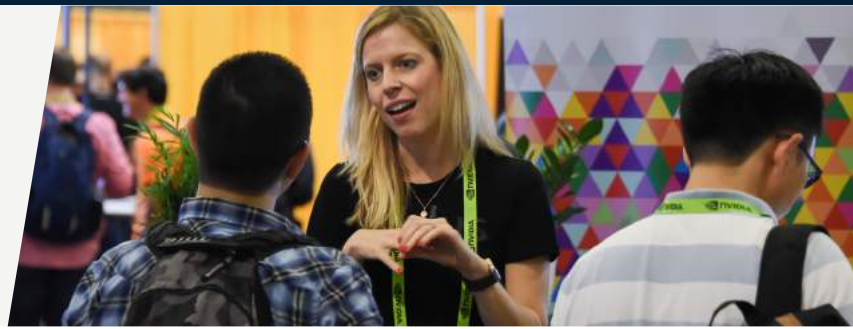
Advanced 3D Simulation for Autonomous Vehicles

Tuesday, 14 August, 5-6 PM
Wednesday, 15 August, 9-10 AM

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
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- Exhibitors
- Business Symposium

The Job Fair is the best place at SIGGRAPH 2018 for employers to meet with thousands of job seekers from around the globe!



Once again, Job Fair Exhibitors post their jobs on the CreativeHeads.net and ACM SIGGRAPH job boards one month prior to the conference. This allows SIGGRAPH 2018 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.

Job Fair Hours

Tuesday, 14 August, 9:30 AM-6 PM

Wednesday, 15 August, 9:30 AM-6 PM

Job Seekers

The Job Fair IS THE BEST PLACE to be if you are:

- Actively looking for a new job.
- Passively networking to see what opportunities are available.
- Interested in getting acquainted with some great companies.
- Hoping to broaden your horizons and possibly switch industries.
- Looking for career development tips.
- Wanting to learn about the latest CG and interactive techniques.

Employers

The Job Fair IS THE BEST PLACE to be if you want to:

- Meet with seasoned professionals.
- Hire "right-brain" talent.
- Promote your company, job openings, projects, and participation.
- Reach an extremely diverse and experienced group of creative professionals working across multiple creative industries.

Job Fair Participants (as of 13 July)

Booth

- JF6-7 Activision Publishing
- JF12 Adobe Research
- JF15 Align Technology
- JF19 Animal Logic
- IR1-4 Apple
- RP2 Atomic Fiction
- JF31 Avametric
- JF22 BANDAI NAMCO Studios Vancouver Inc.
- JF18 Bardel Entertainment Inc.
- JF26 Blackbird Interactive
- ERP2 Carbon
- JF14 Cinesite/Image Engine
- JF13 DHX Media Ltd.
- JF5 Double Negative Visual Effects
- ERP4 Drexel University Westphal College of Media Arts & Design
- JF10-11 Electronic Arts
- JF1 Framestore
- JF 33 Frima Studio
- JF21 FuseFX
- JF28 Huawei Technologies Co. Ltd.
- JF20 Ilion Animation Studios

- ERP1 InstaLOD
- ERP5 Intel Corporation
- JF3 Kabam Games
- ERP3 King Abdullah University of Science and Technology
- JF24 Mainframe Studios
- JF8-9 MPC Film
- JF16 Mr. X
- ERP6 NVIDIA
- JF32 Pipeline Studios Inc.
- JF25 Reel FX
- JF4 Rodeo FX Inc.
- JF17, IR5 Savannah College of Art and Design
- JF29 Scanline VFX
- JF23 Seneca College
- JF30 SkyBox Labs
- RP1, IR6 Sony Interactive Entertainment - PlayStation
- JF27 Weta Digital
- JF2 Zoic Studios

Registration Level:

- Full Conference Platinum
- Full Conference
- Select Conference
- Exhibits Plus
- Exhibits Only
- Exhibitors
- Business Symposium

GENERAL INFORMATION

Bookstore

BreakPoint Books offers books, CDs, and DVDs on computer animation, graphic design, gaming, 3D graphics, modeling, and digital artistry. The bookstore features recent books by SIGGRAPH 2018 speakers and award winners.

Child Policy

Registration Requirements

All children must register for the conference, regardless of age. Each paid adult may register up to three children, 12 and under at no charge. Children 13 and over will be required to purchase their registration.

Attendance Restrictions

There are no age-based restrictions to attend at Conference. However, children 17 and under must be accompanied by a registered adult at all times.

Lost Children

Unattended and lost children are to be taken to the Conference Management Office (Room 202) until parents/guardians can be located. Conference Management staff will notify SIGGRAPH security and instruct them to advise their staff with respect to the discovered child, as parents will probably approach Security personnel with inquiries.

Disclaimer

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

Hotel Reservations

Visit the SIGGRAPH 2018 website to access the easy-to-use online hotel reservation system, which includes complete information on housing policies, procedures, and rates:

s2018.siggraph.org

Or contact:

OnPeak

+1.855.416.6073 (Toll Free and Domestic)

+1.312.527.7300 (International)

siggraph@onPeak.com

SIGGRAPH 2018 has negotiated discount rates for hotels in Vancouver. These discounts are available to SIGGRAPH 2018

attendees only. Reservations made after 16 July 2018 are based on availability only, and rates may increase.

SIGGRAPH 2018 hotel rates can only be booked through onPeak, SIGGRAPH 2018's Housing Partner. If you are contacted by any other companies to make hotel reservations, be aware they may not be reputable companies or endorsed by SIGGRAPH 2018.

Hotel/Convention Center Shuttle Bus Service

There is no shuttle service provided between the SIGGRAPH 2018 hotels and the Vancouver Convention Centre. The transit system in Vancouver provides excellent service, and many hotels are within easy walking distance.

Photography and Recording Policies

All registered media and attendees are encouraged to take photos and record video in approved areas at SIGGRAPH 2018. However, it is important to recognize that many of the words, images, sounds, objects, and technologies presented at SIGGRAPH are protected by copyrights or patents. Please respect their intellectual-property rights and do not photograph or shoot video in designated "No Photography" areas.

Photography and recording is prohibited in the Electronic Theater, Production Sessions and the VR Theater, and is at the discretion of presenters for the following programs: ACM SIGGRAPH Award Talks, Art Papers, Courses, Exhibition, Exhibitor Sessions, Panels, Talks and Technical Papers.

Cameras and Recording Devices

All attendee cameras and recording equipment must be hand-held. Members of the media are allowed to use tripods and larger equipment, but they must register their devices with the SIGGRAPH 2018 Media Office in advance of use.

Conference Photographers & Videographers

SIGGRAPH 2018 employs professional photographers and videographers and reserves the right to use all images and videos that these content creators document during the conference for publication and promotion of ACM SIGGRAPH events.

Public Transportation (Transportation From Vancouver International Airport)

The SkyTrain's Canada Line provides rapid rail service. Trains leave the airport station approximately every seven minutes during most times of the day. There are 16 stops along the line, with downtown Vancouver stops including Yaletown, Vancouver City Centre and Waterfront.

The trip from YVR airport to downtown Vancouver takes approximately 26 minutes on a two zone fare of \$3.75, plus the \$5.00 Canada Line YVR AddFare.

Reception Access

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

Registration Fees and Categories

For detailed information on the registration fees and registration categories that best fits your schedule and budget visit:

s2018.siggraph.org/register

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 2018 Merchandise Pickup Center. Lost merchandise will not be replaced.

Vancouver Convention Centre

1055 Canada Place
Vancouver, BC V6C 0C3

Accessibility

The Vancouver Convention Centre is handicap accessible. If you have special needs or requirements, please call Conference Management at:

+1.312.673.4818

Food Services

The Vancouver Convention Centre has a variety of bistros and food portables available throughout the convention center. There is also a food court located underground at the Food Fair between the East Building and the Waterfront Centre Hotel.

GENERAL INFORMATION

Internet Access

Free wireless access is available in all conference locations within the Vancouver Convention Centre (except in the Exhibit Hall).

Luggage and Coat Check

Luggage and Coat check services are available in the foyer space Outside West Exhibit Hall A/B Lobby (under the escalators) at the Vancouver Convention Centre throughout the conference week. There is a \$5 fee for each item checked in.

Parking

SIGGRAPH 2018 attendees can park at the following locations:

Imperial Parking Vancouver Convention Centre

1055 Canada Place

+1.877.909.6199

Located at the Vancouver Convention Centre West on the northside of Canada Place between Burrard Street and Thurlow Street.

WestPark at Canada Place

999 Canada Place

Parking Level 1

+1.604.684.2251

+1.866.856.8080 (Toll Free)

canadaplace@westpark.com

Located at the North end of Howe Street at Canada Place Way, in the P-1 level beside the exit lanes.

Power Stations

There will be multiple charging stations set up throughout the Vancouver Convention Centre to be used by attendees throughout the SIGGRAPH 2018 conference week.

SIGGRAPH 2018 CONFERENCE COMMITTEE

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Roy C. Anthony
Ventuz Technology

Art Gallery Chair

Andres Burbano
Universidad de Los Andes

Art Papers Chair

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Pixar Animation Studios

CO-LOCATED EVENTS

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



ACM Symposium on Applied Perception

10-11 August 2018

Century Plaza

Vancouver, Canada

DigiPro 2018

11 August 2018

Four Seasons Hotel Vancouver

Vancouver, Canada

Expressive 2018

17-19 August 2018

University of Victoria

Victoria, Canada

High-Performance Graphics 2018

10-12 August 2018

Simon Fraser University

Vancouver, Canada

THE VOICE OF GENERATIONS

I fell in love with the people that make up SIGGRAPH; a group of people that enthusiastically support and cheer each other on in the development of even greater graphics and interactive techniques year after year

