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## Conference at a Glance

### Conference Registration Categories
- **F** Full Conference Access
- **S** Select Conference Access
- **E+** Exhibits Plus
- **Ex** Exhibitors

### Schedule subject to change.

### Conference at a Glance

<table>
<thead>
<tr>
<th>Day</th>
<th>10 August</th>
<th>11 August</th>
<th>12 August</th>
<th>13 August</th>
<th>14 August</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Sunday</td>
<td>Monday</td>
<td>Tuesday</td>
<td>Wednesday</td>
<td>Thursday</td>
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<tr>
<td>Registration/Merchandise Pickup Center</td>
<td>8:30 am - 6 pm</td>
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<tr>
<td>ACM SIGGRAPH Award Talks</td>
<td>2 - 3:30 pm</td>
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<tr>
<td>ACM Student Research Competition Final Presentation</td>
<td>2 - 3:30 pm</td>
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<tr>
<td>Appy Hour</td>
<td>5:30 - 7:30 pm</td>
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<tr>
<td>Art Gallery</td>
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<tr>
<td>Art Papers</td>
<td>9 am - 12:30 pm</td>
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<tr>
<td>Birds of a Feather</td>
<td>All week</td>
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<tr>
<td>Computer Animation Festival Electronic Theater</td>
<td>6:30 - 8:45 pm</td>
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<tr>
<td>Computer Animation Festival</td>
<td>9 am - 5:30 pm</td>
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<tr>
<td>Computer Animation Festival &quot;How to Train Your Dragon 2&quot; Screening</td>
<td>8 - 10 pm</td>
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<tr>
<td>Courses</td>
<td>9 am - 5:15 pm</td>
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<tr>
<td>Dailies</td>
<td>6 - 8 pm</td>
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<td>Emerging Technologies</td>
<td>noon - 5:30 pm</td>
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<tr>
<td>Exhibition</td>
<td>9:30 am - 6 pm</td>
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<tr>
<td>Exhibitor Tech Talks</td>
<td>9:30 am - 6 pm</td>
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<tr>
<td>Exhibits Fast Forward</td>
<td>3:45 - 5:15 pm</td>
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<tr>
<td>Film and Games Concept Art Lounge</td>
<td>noon - 5:30 pm</td>
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<tr>
<td>International Resources</td>
<td>9 am - 6 pm</td>
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<td>Job Fair</td>
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<tr>
<td>Keynote Sessions</td>
<td>11 am - 12:45 pm*</td>
<td>11 am - 12:15 pm</td>
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<td>Panels</td>
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<td>Posters</td>
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<td>Poster Sessions</td>
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<td>Production Sessions</td>
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<td>Real-Time Live!</td>
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<tr>
<td>Reception</td>
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<td>Studio</td>
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<td>Talks</td>
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<tr>
<td>Technical Papers</td>
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*Includes ACM SIGGRAPH Award Presentation
Reasons to Attend

Why SIGGRAPH?

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

Learning

At SIGGRAPH 2014, you will learn more in five days than you could at any other conference, or any combination of conferences, anywhere in the world. And you’ll learn from the world’s leading experts in computer graphics and interactive techniques.

Inspiration

With direct, real-time access to the latest theories, the coolest technologies, and the wisdom of thousands of colleagues and collaborators, you will return from SIGGRAPH 2014 creatively rejuvenated. This is your chance to get out of the office, away from your daily routine, and out from under your email and meet the best minds in the industry.

Expertise

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

Engagement

Interactive is so important to us that it’s part of our name. At SIGGRAPH 2014, you’ll see, hear, and touch real-time demos by the most technically advanced minds in computer graphics and interactive techniques.

Exclusive

With its breadth of programs and events, only SIGGRAPH 2014 allows you to produce a conference experience that’s exclusively yours. The balance of technical presentations with artistic and creative demonstrations is what really makes SIGGRAPH stand out.

Community

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

“Learning”

“It’s the best way to learn things people never tell you at school.”

“Expertise”

“Points of view from different industries and ideas new to your world are presented.”

“Engagement”

“It’s invaluable – you will reference the talks you see to your colleagues in production scenarios for the next few years.”

“Exclusive”

“It’s like being a fly on the wall at a major studio’s creative meeting.”

“Community”

“It’s like being a fly on the wall at a major studio’s creative meeting.”
Conference Overview

SIGGRAPH 2014, the world’s premier conference and exhibition on computer graphics and interactive techniques. Vancouver, one of the most beautiful and cosmopolitan cities in the world. And you, and your international colleagues, collaborators, and friends.

Make your plans now to join us in August.

Conference Registration Categories

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<tr>
<th>Category</th>
<th>Description</th>
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<td>F</td>
<td>Full Conference Access</td>
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<td>S</td>
<td>Select Conference Access</td>
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<tr>
<td>E+</td>
<td>Exhibits Plus</td>
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<td>Ex</td>
<td>Exhibitors</td>
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One-Day Registration

One-Day registration includes one day admission to all conference programs and events and the Exhibition (Tuesday-Thursday). Does not include the SIGGRAPH 2014 Reception ticket.

ACM SIGGRAPH Awards

ACM SIGGRAPH 2014 Award Recipients

- Computer Graphics Achievement Award
  - Thomas Funkhouser
  - Princeton University

- Significant New Researcher Award
  - Noah Snavely
  - Cornell University

- Distinguished Artist Award for Lifetime Achievement in Digital Art
  - Harold Cohen
  - University of California, San Diego

- Outstanding Service Award
  - Scott Lang
  - Bergen County Academies

ACM Student Research Competition

Fifteen student posters are selected for judging at SIGGRAPH 2014. The panel of distinguished judges selects five semi-finalists, who present their work to the judges. Three winners present their posters to SIGGRAPH 2014 attendees.

Reception

Monday, 11 August, 8-10 pm
West Building, Exhibit Hall A

The international SIGGRAPH community’s highest-energy, best-attended social event of the year. Drink a toast to your colleagues’ achievements, and your own. Share a convivial evening with people you haven’t seen since SIGGRAPH 2013. And meet the people you need to know for another year of professional success and adventure.

During the Monday-evening reception, attendees enjoy snacks, desserts, and refreshing beverages while exploring the Art Gallery, Studio, and Emerging Technologies exhibits.

Outstanding Service Award

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

ACM SIGGRAPH Award Talks

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

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

Distinguished Artist Award for Lifetime Achievement in Digital Art
Awarded annually to an artist who has created a substantial and important body of work that significantly advances aesthetic content in the field of digital art.

Appy Hour

Get acquainted with the next generation of mobile applications and their creators at Appy Hour: Light snacks, liquid refreshments, and demos by developers of interactive, animated, location-based, visualization, and game apps.
Conference Overview (continued)

**FSE+Ex Art Gallery: Acting in Translation**
Translation, as a term and as a tool, generates plenty of potential disconnected trajectories for art production. These fields have the ability to cover and merge with other fields of knowledge, including global and local societal developments such as resistance movements, alternative economies, information leaks, migration flows, and mobility—all processed by the works in the Art Gallery.

**FSE+Ex Birds of a Feather**
Informal presentations, discussions, and demonstrations, designed by and for people who share interests, goals, technologies, environments, or backgrounds.

**FS Computer Animation Festival**
The past year’s finest achievements in animation, visual effects, and visualization presented in the Electronic Theater and the Daytime Selects.

**F Courses**
Learn from the experts and gain inside knowledge that's critical to career advancement. Courses range from an introduction to the foundations of computer graphics and interactive techniques for those new to the field to advanced instruction on the most current techniques and topics.

**FS Dailies**
Celebrate excellence in computer graphics with an evening of presentations showcasing images and short animations of extraordinary power and beauty. The diverse set of presenters includes Texas A&M University, Clemson University, DreamWorks Animation, Naughty Dog, Inc., Pixar Animation Studios, and many more. You will be astounded by sheer brilliance in modeling, shading, animation, lighting, effects, and more.

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

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

**FSE+Ex Exhibitor Tech Talks**
SIGGRAPH 2014 exhibitors demonstrate software, hardware, and systems; answer questions; and host one-on-one conversations about how their applications improve professional and technical performance.

**FSE+Ex Exhibits Fast Forward**
A preview of the products and announcements that companies plan to make during the Exhibition in a fast-paced, entertaining session prior to the Exhibition opening.

**GAMES**

**FSE+Ex Film and Games Concept Art Lounge**
Come experience the latest concept art from film and video games via an interactive media installation in the Film and Games Concept Art Lounge. Stay and relax and take in the sights.

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

**FSE+Ex Job Fair**
Looking for opportunity? Interested in meeting with some inspiring companies? Discover your future at SIGGRAPH 2014. In the Job Fair, attendees connect with employers before, during, and after the conference via the CreativeHeads.net job board and candidate profiling system.

**FSE+Ex Keynote Sessions**
Surprising insight and entertaining stories from innovators in computer graphics, interactive techniques, and/or related fields.

**F Panels**
Expert panelists share experiences, opinions, insights, speculation, disagreement, and controversy with each other and the audience. Panel topics range from motion-controlled gaming to the growing use of virtual production in game and film creation.

**Papers**
Explore the most advanced research results in computer graphics and interactive techniques. These prestigious juried sessions are the most prestigious international forums in their respective fields.

**FSE+Ex 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.

**FS Technical Papers**
SIGGRAPH Technical Papers reveal new directions and define the future of computer graphics and interactive techniques. Two emerging themes for 2014 are design/fabrication and learning.

**FS Art Papers**
Scholars and artists explore the changing roles of artists and the methods of art-making in our increasingly networked and computationally mediated world. They inform artistic disciplines, set standards, and stimulate future trends.

**FS Posters**
In-progress research, student projects, and late-breaking work ranging from applications of computer graphics to in-depth analysis of specific subjects. Posters are on display for attendees to browse at their leisure. During Poster Presentations, authors discuss their work with attendees.

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

**FS Real-Time Live!**
The premier showcase for the latest trends and techniques that push the boundaries of interactive visuals.

**FSE+Ex Studio**
In this collaborative working environment, the latest technologies and brightest minds come together to learn, experiment, and create. Explore the Studio and try out a wide range of new techniques and media with help from experienced hands. Play with the latest in 3D printing, modeling, and animation software. Attend Studio Courses and Talks.

**F Talks**
Discover recent achievements and work in progress in all areas of computer graphics and interactive techniques: art, design, animation, visual effects, interactivity, research, engineering, and games.
Conference Schedule

Registration/Merchandise Pickup Center/SIGGRAPH Boutique

Sunday, 10 August 8:30 am-6 pm
Monday, 11 August 8:30 am-6 pm
Tuesday, 12 August 8:30 am-6 pm
Wednesday, 13 August 8:30 am-6 pm
Thursday, 14 August 8:30 am-3:30 pm

Schedule is subject to change.

Sunday, 10 August

9 am-6 pm
International Center

9-10:30 am
Panel: Ready, Steady ... SIGGRAPH

9 am-12:15 pm
Course: Digital Ira and Beyond: Creating Photoreal Real-Time Digital Characters

10:45 am-12:15 pm
Course: Fundamentals Seminar
Course: Navigation Meshes and Real-Time Dynamic Planning for Interactive Virtual Worlds
Course: New Generation of Microscopic Crowd-Simulation Algorithms
Talks: Capture and Display

noon-5:30 pm
Art Gallery: Acting in Translation
Emerging Technologies
Film and Games Concept Art Lounge
Posters
Studio

12:30-5:15 pm
Studio Course: Arduino Drawing Machines

2-3:30 pm
Course: Kinect Technology in Games
Talks: On the Rocks
Talks: Got Crowds?

2-5:15 pm
Course: 3D Imaging With Time-of-Flight Cameras: Theory, Algorithms, and Applications
Course: Attention-Aware Rendering, Mobile Graphics, and Games
Course: Introduction to WebGL Programming

Monday, 11 August

8-9 am
Educators Meet and Greet

9-10:30 am
Panel: Sights, Sounds, and Sensors: Where Visualization, Sonification, MEMS, HMDs, and 3D Converge

Production Session
Talks: Capture in Depth
Talks: Simulation
Technical Papers: Shape Collection
Technical Papers: Sound & Light

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

9 am-5:30 pm
Art Gallery: Acting in Translation
Emerging Technologies
Computer Animation Festival
Daytime Selects
Film and Games Concept Art Lounge
Posters
Studio

9 am-6 pm
International Center

9:15-10:45 am
Studio Course: High Resolution 3D Printing: Design for Stereolithography

11 am-12:45 pm
Keynote Session (includes ACM SIGGRAPH Award Presentation)

2-3:30 pm
ACM SIGGRAPH Award Talks
Panel: From Production Artist to Educator: Preparing for the Change

Production Session
Studio Course: Design Tips for Digital T-Shirt Printing
Talks: Show and Tell

2-5:15 pm
Course: Advances in Real-Time Rendering in Games, Part II
Course: Put on Your 3D Glasses Now: The Past, Present, and Future of Virtual and Augmented Reality
Course: Structure-Aware Shape Processing

3:45-5 pm
Technical Papers: Faces

3:45-5:15 pm
Exhibits Fast Forward

Dailies Preview and Real-Time Live! Preview

Production Session
Studio Course: Make Cross-Platform Mobile Apps Quickly
Talks: Rigging the Outcome
Technical Papers: Points & Reconstruction

6:30-8:45 pm
Computer Animation Festival
Electronic Theater

8-10 pm
Reception
Tuesday, 12 August

8-9 am
Educators Meet and Greet

9-10 am
Art Papers: Aesthetics of Liminality, Biocybernetics, and Generative Art

9-10:30 am
Course: Moving Pictures: Making the Most of the Mobile

Production Session
Studio Talks: Think. Design. Do.
Talks: Creature Feature
Technical Papers: Controlling Character
Technical Papers: Non-Photorealistic Rendering
Technical Papers: Sampling & Spectra

9 am-5:30 pm
Art Gallery: Acting in Translation
Computer Animation Festival
Daytime Selects
Emerging Technologies
Film and Games Concept Art Lounge
Posters
Studio

9 am-6 pm
International Center

9:15-10:45 am
Studio Course: Creating Next-Gen 3D Interactive Apps With Motion Control and Unity3D

9:30 am-6 pm
Exhibition
Exhibitor Tech Talks
Job Fair

10:15-11:15 am
Art Papers: Spatial Politics/Spatial Ontologies

10:45 am-12:15 pm
Course: Character Creation Pipeline and Rendering in Destiny

Production Session
Talks: Sampling
Talks: About Face
Technical Papers: Displays
Technical Papers: Fabrication-Oriented Design
Technical Papers: Geometry Processing

11 am-12:30 pm
Studio Course: ShaderToy Hackathon

11:15 am-12:15 pm
Exhibitor Tech Talk: Unity Technology: Making an Endless-Runner Game With Unity

11:30 am-12:30 pm
Art Papers: Embodiment, Affect, Translation

12-5:30 pm
Intel Exhibitor Session

12:15-1:15 pm
Poster Sessions

2-3:30 pm
Art Gallery Talk Session 1:
Art Gallery Panel: On SIGGRAPH Art Gallery: Basak Senova in Conversation With Sue Gollifer, Mona Kasra, and Burak Arikan
Reception: Leonardo, Art Papers, and Art Gallery

Production Sessions
Talks: Think Big
Technical Papers: Games & Design
Technical Papers: Surfaces, Deformation, and Correspondence
Technical Papers: Video Applications

2-5:15 pm
Course: Destiny Character-Animation System and Lessons Learned
Course: Recent Advances in Light-Transport Simulation: Some Theory and a Lot of Practice
Studio Course: Developing a 3D Model Viewer for iOS Using COLLADA and OpenGL ES

Wednesday, 13 August

9-10:30 am
Course: Building an Empire: Asset Production in Ryse

Panel: State of Animation Tools in the Industry

Production Session
Studio Talks: Bing! Bang! Boom!
Talks: Hair Today
Technical Papers: Fabrication
Technical Papers: Layout Building & Scenes

9 am-12:15 pm
Course: Mathematical Basics of Motion and Deformation in Computer Graphics

9 am-5:30 pm
Art Gallery: Acting in Translation
Computer Animation Festival
Daytime Selects
Emerging Technologies
Film and Games Concept Art Lounge
Intel Exhibitor Session
Posters
Studio

9 am-6 pm
International Center
9:15 am-12:30 pm
Studio Course: 3D Scanning for Personal 3D Printing

9:30 am-6 pm
Exhibition
Exhibitor Tech Talks
Job Fair

10:45 am-12:15 pm
Art Gallery Talk Session 2
Course: Machine Learning for Graphics
Course: Why Graphics Programmers Need to Know About DRAM
Production Session
Talks: Let There Be Light
Technical Papers: Light Transport
Technical Papers: Subspace & Spacetime

11 am-12:15 pm
Keynote Session

12:15-1:15 pm
Poster Sessions

2-3:30 pm
Art Gallery Talk Session 3
Course: Eulerian Solids for Soft Tissue and More!
Panel: Cultivating Creative Thinking: Stories From the Field
Production Sessions
Technical Papers: Mesh-Based Simulation
Technical Papers: Reflectance: Modeling, Capturing, Renderings
Technical Papers: Shape Analysis

2-5:15 pm
Course: Physically Based Shading in Theory and Practice
Studio Course: alphaBot Workshop: Constructing Robots, Translating Language

3:45-5:15 pm
Production Sessions
Talks: Dynamics
Talks: Pipeline in Production
Technical Papers: Hair & Collisions
Technical Papers: Image Tricks
Technical Papers: Interactive Modeling

5:30-7:30 pm
Appy Hour

6-8 pm
Dailies

8-10 pm
Computer Animation Festival
“How to Train Your Dragon 2” Screening

2-3:30 pm
ACM Student Research Competition Final Presentation
Course: Introduction to 3D Gestural Interfaces
Technical Papers: Depth for All Occasions
Technical Papers: Surfaces, Shapes, and Maps

2-5:15 pm
Course: Raytracers and Workflow: A Production Perspective
Course: Scattered Data Interpolation for Computer Graphics

3:45-5:15 pm
Talks: Perception
Technical Papers: Shady Images

9-10:30 am
Studio Talks: Dissect,Visualize,Educate.
Talks: Scattering
Talks: Don’t Let Go (Gravity)
Technical Papers: Fields on Surfaces
Technical Papers: Fluids
Technical Papers: Hardware Systems

9 am-12:15 pm
Course: Skinning: Real-Time Shape Deformation

9 am-1 pm
Art Gallery: Acting in Translation
Emerging Technologies
Film and Games Concept Art Lounge
Studio

9 am-3:30 pm
International Center

9 am-4:15 pm
Intel Exhibitor Session

9 am-5:30 pm
Posters

9:15 am-12:30 pm
Studio Course: Data Visualization: A Starting Point

9:30 am-3:30 pm
Exhibition
Exhibitor Tech Talks
Job Fair

10:45 am-12:15 pm
Art Gallery Talk Session 4
Panel: An Evaluation of University Education as it Relates to the VFX, Animation, and Game Industries
Talks: Crowded, Furry, and in a Hurry
Technical Papers: Changing Your Perception
Technical Papers: Stretching & Flowing
Technical Papers: Fast Rendering

Thursday, 14, August

9-10:30 am
Studio Talks: Dissect,Visualize,Educate.
Talks: Scattering
Talks: Don’t Let Go (Gravity)
Technical Papers: Fields on Surfaces
Technical Papers: Fluids
Technical Papers: Hardware Systems

9 am-12:15 pm
Course: Skinning: Real-Time Shape Deformation

9 am-1 pm
Art Gallery: Acting in Translation
Emerging Technologies
Film and Games Concept Art Lounge
Studio

9 am-3:30 pm
International Center

9 am-4:15 pm
Intel Exhibitor Session

9 am-5:30 pm
Posters

9:15 am-12:30 pm
Studio Course: Data Visualization: A Starting Point

9:30 am-3:30 pm
Exhibition
Exhibitor Tech Talks
Job Fair

10:45 am-12:15 pm
Art Gallery Talk Session 4
Panel: An Evaluation of University Education as it Relates to the VFX, Animation, and Game Industries
Talks: Crowded, Furry, and in a Hurry
Technical Papers: Changing Your Perception
Technical Papers: Stretching & Flowing
Technical Papers: Fast Rendering
The theme of the SIGGRAPH 2014 Art Gallery is Acting in Translation.

Translation, as a term and as a tool, generates plenty of potential disconnected trajectories for art production. These fields have the ability to cover and merge with other fields of knowledge, including global and local societal developments such as resistance movements, alternative economies, information leaks, migration flows, and mobility - all processed by the works in the Art Gallery.

Image credit: Modern Video Processor © 2014 Yunsil Heo, Hyunwoo Bang, Everyware

**Apparition**
Paul L. Stout

**The Evolution of Silence**
Rachele Riley

**Internet SteamGauge**
Ed Konowal
GraphicsNet

**Levitate**
Yunsil Heo
Hyunwoo Bang
Everyware

**Lineographs**
Joseph Farbrook
Worcester Polytechnic Institute

**Looking Glass Time**
Yoichi Ochiai
The University of Tokyo

**Modern Video Processor**
Yunsil Heo
Hyunwoo Bang
Everyware

**Mother**
Inmi Lee
Kutztown University
Kyle McDonald
ITP/New York University

**Points of View**
Zohar Kfir
Independent New Media Artist

**SeeMore**
Sam Blanchard
Kirk Cameron
Robert Redfern
Sergio Bernales
Bo Li
Michelle Wil
Hung-Ching Chang
Kelsey Farenholz
Brandon Deaguero
Timmy Meyer
John Mooring
Ali Butt
Tamar Petersen
Virginia Polytechnic Institute and State University

**SIGGRAPH Art Gallery Connection (1994-2004)**
Burak Arikan
SIGGRAPH Art Gallery

**Speculatorum Oculi**
Erik Brunvand
University of Utah

**Subway Stories**
Alon Chitayat
Animishmish Studio/ITP
Jeff Ong
ITP, New York University

**TRANSICONMORPHOSIS**
Emilio Vavarella
Fito Segreva
Independent Artists
Art Gallery: Acting in Translation

Art Gallery Talk Session 1
Tuesday, 12 August
2-3:30 pm
Panel: On SIGGRAPH Art Gallery:
Basak Senova in Conversation
With Sue Gollifer, Mona Kasra,
and Burak Arikan

Sue Gollifer
University of Brighton, Director ISEA International,
SIGGRAPH 2004 Art Gallery Chair

Basak Senova
Koc University and SIGGRAPH 2014 Art Gallery
Chair

Mona Kasra
SIGGRAPH 2016 Conference Chair, University of
Texas - Dallas

Burak Arikan
Founder of Graph Commons

Art Gallery Talk Session 2
Wednesday, 13 August
10:45 am-12:15 pm
Moderator: Basak Senova, Koc University and
SIGGRAPH 2014 Art Gallery Chair

Points of View
Zohar Kfir
Independent New Media Artist

Subway Stories
Alon Chitayat
Animishmish Studio/ITP

Jeff Ong
ITP, New York University

The Evolution of Silence
Rachele Riley

Art Gallery Talk Session 3
Wednesday, 13 August
2-3:30 pm
Moderator: Basak Senova, Koc University and
SIGGRAPH 2014 Art Gallery Chair

Can Digital Art Have the Same
Emotional Impact and Historical
Significance as Masterworks in
Painting, Drawing, and Sculpture?

Joseph Farbrook
Worcester Polytechnic Institute

Mother
Inmi Lee
Kutztown University

Art Gallery Talk Session 4
Thursday, 14 August
10:45 am-12:15 pm
Moderator: Basak Senova, Koc University and
SIGGRAPH 2014 Art Gallery Chair

On Everyware
Hyunwoo Bang
Yunsil Heo
Everyware

Technological Error, Power and
Metamorphosis
Emilio Vavarella

From Virtual to Reality
Ed Konowal
GraphicsNet
Art Papers explore the changing roles of artists and the methods of art-making in an increasingly networked and computationally mediated world. They analyze the processes and theoretical frameworks for making art and contextualizing its place in society. And they illuminate future possibilities in the evolution of art.

In collaboration with Leonardo/ISAST, the papers are published in a special issue of Leonardo, The Journal of the International Society of the Arts, Sciences and Technology. The issue also includes visual documentation of the works exhibited in the Art Gallery. Publication of this special issue coincides with SIGGRAPH 2014.

Aesthetics of Liminality, Biocybernetics, and Generative Art

Tuesday, 12 August, 9-10 am
Moderator: Victoria Szabo, Duke University

The Aesthetics of Liminality: Augmentation as Artform
This paper describes modes of interaction in augmented reality art in an attempt to constrict a critical vocabulary for this emerging artform.
Patrick Lichty
University of Wisconsin-Milwaukee

Aesthetics of Biocybernetic Designs: A Systems Approach to Biorobots and its Implications for the Environment
This paper demonstrates how systems theory emerges as a categorical foundation for the aesthetics of biocybernetic art, as contra-distinguished from and even opposed to existing, teleological narratives of perfection or form.
Reynaldo Thompson
Universidad de Guanajuato
Tirtha Prasad Mukhopadhyay
University of Calcutta

XEPA - Autonomous Intelligent Light and Sound Sculptures That Improvise Group Performances
XEPA is a generative installation of intelligent sound and light sculptures that independently evaluate the aesthetics of the other sculptures, infer an attempted theme or mood, and then modify their own aesthetics to better reinforce that theme, each time creating a performance that is emergent, unique, and widely varied.
Philip Galanter
Texas A&M University

Spatial Politics / Spatial Ontologies

Tuesday, 12 August, 10:15-11:15 am
Moderator: Teri Rueb, University at Buffalo/Department of Media Study

Malleable Environments and the Pursuit of Spatial Justice in the Bronx
Participatory performances and a mobile cinema application employing user-generated content are used as a starting point for location-based cinema walks, facilitating conversation on the evolving nature of urban spatial justice in New York City.
Melanie Crean
Parsons the New School for Design

A Piece of the Pie Chart: Feminist Robotics
This is a paper about A Piece of the Pie Chart, a robotic gallery installation that addresses gender inequity in the tech world.
Annina Rüst
Syracuse University

Nervous Ether: Soft Aggregates, Interactive Skins
Nervous Ether is a prototype installation of a spatial envelope, consisting of an aggregate cellular pneumatic weave that operates as an instrument to register and communicate remote environmental information, while also developing affective interaction with inhabitants.
Kathy Velikov
Geoffrey Thün
University of Michigan, RVTR
Mary O’Malley
RVTR
Wiltrud Simbuerger
University College London

Embodiment, Affect, Translation

Tuesday, 12 August, 11:30 am-12:30 pm
Moderator: Joanna Berzowska, Concordia University

Posture Platform and The Drawing Room: Virtual Teleportation in Cyberspace
The Drawing Room is the most recent virtual environment developed for the Posture Platform, an immersive telepresence network. It invites participants to a blank shared space where they draw their own environment collaboratively.
Luc Courchesne
Emmanuel Durand
Sébastien Roy
Society for Arts and Technology

Transmission: A Telepresence Interface for Neural and Kinetic Interaction
Transmission is a telepresence interface for neural and kinetic interaction, a live performance and audience participation tool and both art project and telepresence research design.
Oliver Gingrich
Alain Renaud
Bournemouth University
Eugenia Emets
Artist at Analaema Group, London
Zhidong Xiao
Bournemouth University

Object Intermediaries: How New Media Artists Translate the Language of Things
This paper extends the current discussion around intersections of new-media art and object-oriented ontology, post humanism, and interspecies communication to the work of Paula Gaetano Adi and Lindsey French, two contemporary new-media artists whose work has not yet been examined in this context.
Kayla Anderson
Artist and Writer
The leading annual festival for the world’s most innovative, accomplished, and amazing digital film and video creators. The Computer Animation Festival is recognized by the Academy of Motion Picture Arts and Sciences as a qualifying festival. Since 1999, several works originally presented in the Computer Animation Festival have been nominated for or have received a “Best Animated Short” Academy Award.

The SIGGRAPH 2014 Computer Animation Festival presents:

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

**Daytime Selects**
Showcasing curated work in experimental film and animation, live-action shorts, stop motion, traditional animation, children’s film and animation, and time-based art, Daytime Selects presents the most provocative, compelling, and avant garde short films and animations, both CG and non-CG.

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

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

**FIRST-TIMER**

FS  How to Train Your Dragon 2 – Production Session and Special Viewing

At SIGGRAPH 2014, DreamWorks Animation presents a behind-the-scenes discussion on the feature animated film, How To Train Your Dragon 2 (June 2014). Writer/Director Dean DeBlois charts the nuanced filmmaking necessary to fully realize this next adventure in the secret and emotional world of dragons. Featuring DeBlois, Gil Zimmerman (Head of Layout), Simon Otto (Head of Character Animation) and Dave Walvoord (VFX Supervisor), the panel will discuss the creative contributions that went into advancing the complexity and believability of the storytelling and the cinematography, as well as the leap forward the animators were able to make using Apollo, DreamWorks Animation’s ground-breaking next generation animation system.

Then, catch a special viewing of How to Train Your Dragon 2 at SIGGRAPH 2014, Wednesday night, 13 August, 8-10 pm.
Courses (See Studio for more Courses.)

Instruction, insight, and inspiration from academic and industry experts. SIGGRAPH 2014 Courses deliver invaluable learning opportunities in three levels of difficulty (introductory, intermediate, and advanced).

Full Conference registration allows attendees access to most SIGGRAPH 2014 Courses. Additional Courses are presented in the Studio, which is open to attendees in all registration categories.

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

Image credit: Skinning: Real-Time Shape Deformation (c) 2014 Alec Jacobson, ETH Zürich; Zhigang Deng, University of Houston; Ladislav Kavan, University of Pennsylvania; J.P. Lewis, Victoria University of Wellington and Weta Digital

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**Sunday, 10 August**

**GAMES**

**Digital Ira and Beyond: Creating Photoreal Real-Time Digital Characters**

**Sunday, 10 August, 9 am-12:15 pm**

**INTERMEDIATE**

This course explains a complete process for creating next-generation real-time digital human characters, using the Digital Ira collaboration between the USC Institute for Creative Technologies and Activision as an example. Topics include: high-resolution facial scanning, blendshape rigging, video-based performance capture, animation compression, real-time skin and eye shading, hair, latest results, and future directions.

Javier von der Pahlen
Jorge Jimenez
Etienne Danvoye
Activision, Inc.

Paul Debevec
Graham Fyffe
USC Institute for Creative Technologies

Hao Li
University of Southern California

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**Navigation Meshes and Real-Time Dynamic Planning for Interactive Virtual Worlds**

**Sunday, 10 August, 10:45 am-12:15 pm**

**INTERMEDIATE**

Building on classical techniques in computational geometry and discrete search, this course introduces recent developments in real-time planning and discrete-environment representations that provide efficient and robust computation of paths with different types of constraints in large, complex, and dynamic environments.

Marcelo Kallmann
University of California, Merced

Mubbasir Kapadia
Disney Research Zürich

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**FIRST-TIMER**

**Fundamentals Seminar**

**Sunday, 10 August, 10:45 am-12:15 pm**

**INTRODUCTORY**

The Fundamentals Seminar delivers a basic background in the concepts and terminology that attendees need to get more from the various programs offered at the annual SIGGRAPH conference. It is like a “pre-course”, because it’s presented first and is more fundamental than anything else.

Mike Bailey
Oregon State University

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**SIGGRAPH University**

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

Two SIGGRAPH 2014 Courses, the Fundamentals Seminar and Introduction to WebGL Programming, will be added to the online archive after the conference.

View SIGGRAPH University Courses on YouTube →
New Generation of Microscopic Crowd-Simulation Algorithms

**Sunday, 10 August, 10:45 am-12:15 pm**

INTRODUCTORY

Crowd simulation recently received a lot of attention as a new class of algorithms emerged to improve simulation quality and realism, with no compromise in performances. This course presents the theoretical foundations of these algorithms as well as technical aspects and applications.

Julien Pettre
INRIA
Ming Lin
University of North Carolina at Chapel Hill
Stéphane Donikian
Golaem SAS
Mikko Mononen
Unity Technologies

GAMES

Kinect Technology in Games

**Sunday, 10 August, 2-3:30 pm**

INTRODUCTORY

This course provides an overview of Microsoft’s Kinect sensor technology and the depth-sensing and imaging tools provided to developers. It also examines two examples in-depth: the Champion scanning experience of Rare’s Kinect Sports Rivals, and the gameplay of Harmonix’s Disney Fantasia: Music Evolved.

Seth Goldstein
Mike Fitzgerald
Harmonix Music Systems, Inc
Andy Bastable
Microsoft Corporation

FIRST-TIMER

Introduction to WebGL Programming

**Sunday, 10 August, 2-5:15 pm**

INTRODUCTORY

An introduction to graphics-application programming with WebGL, the JavaScript implementation of OpenGL ES 2.0 that is supported by all recent web browsers. The course introduces the API, assuming no previous experience with graphics programming, and discusses integrating WebGL within the HTML5 framework.

Edward Angel
University of New Mexico
Dave Sheiner
ARM, Inc.

SIGGRAPH UNIVERSITY

MOBILE

Attention-Aware Rendering, Mobile Graphics, and Games

**Sunday, 10 August, 2-5:15 pm**

INTRODUCTORY

Rendering and design efficiency become critical when deploying computer graphics to mobile devices and games. This course addresses novel approaches to leverage visual-attention models, based on low- and high-level characteristics, to propel attention-aware rendering computation. The result: perceptually optimized scalable algorithms for mobile platforms and game design.

Ann McNamara
Texas A&M University
Katerina Mania
Technical University of Crete
Laurent Itti
University of Southern California
George Kourleris
Technical University of Crete

Monday, 11 August

GAMES

Advances in Real-Time Rendering in Games, Part I

**Monday, 11 August, 9 am-12:15 pm**

INTERMEDIATE

Modern video games employ a variety of sophisticated algorithms to produce ground-breaking 3D rendering pushing the visual boundaries and interactive experience of rich environments. This course brings state-of-the-art and production-proven rendering techniques for fast, interactive rendering of complex and engaging virtual worlds from the folks from Bungie, Epic, Crytek and Ubisoft.

Natalya Tatarchuk
Bungie, Inc.
Brian Karis
Epic Games, Inc.
Michal Drobot
Ubisoft Montreal
Nicolas Schulz
Jerome Charles
Theodor Mader
Crytek GmbH

GAMES

Advances in Real-Time Rendering in Games, Part II

**Monday, 11 August, 2-5:15 pm**

INTERMEDIATE

Modern video games employ a variety of sophisticated algorithms to produce ground-breaking 3D rendering pushing the visual boundaries and interactive experience of rich environments. This course brings state-of-the-art and production-proven rendering techniques for fast, interactive rendering of complex and engaging virtual worlds from the folks from Bungie, Guerrilla Games, Eidos Montreal, Ubisoft Montreal and Activision.

Natalya Tatarchuk
Bungie, Inc.
Michal Valient
Guerrilla Games
Wade Brainerd
Activision Blizzard
Bartomiej Wronski
Ubisoft Montreal
Peter Sikachev
Jean-Normand Bucci
Eidos Montreal
Courses

Put on Your 3D Glasses Now: The Past, Present, and Future of Virtual and Augmented Reality

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

With wearable displays on the cusp of consumer adoption, this course reviews their history, applications in research and development, the current consumer state of the art, and future optical designs that will enable eyeglasses-like form factors. Presenters include VR/AR pioneers, leading entrepreneurs, and academic researchers.

Douglas Lanman
NVIDIA Research

Henry Fuchs
University of North Carolina at Chapel Hill

Mark Mine
Walt Disney Imagineering

Ian McDowall
Intuitive Surgical, Fakespace Labs

Michael Abrash
Oculus VR

Structure-Aware Shape Processing

Monday, 11 August, 2-5:15 pm
INTERMEDIATE

Shape structure is about the arrangement and relations between shape parts, which enables analysis and processing at a high level. A whole new area of structure-aware shape-processing algorithms has emerged to illuminate structure in shapes and potentially change how we capture, manipulate, and interact with shapes.

Niloy Mitra
University College London

Michael Wand
Universiteit Utrecht

Hao Zhang
Simon Fraser University

Daniel Cohen-Or
Tel Aviv University

Vadim Kim
QI-Xing Huang
Stanford University

Tuesday, 12 August

GAMES
Moving Pictures: Making the Most of the Mobile

Tuesday, 12 August, 9-10:30 am
INTERMEDIATE

Mobile systems are increasing in graphical capability despite the constraints of embedded platforms. Making the most of this performance requires careful consideration and techniques that may be familiar to desktop developers. This course highlights the various embedded graphics systems and ways to leverage them.

Andrew Garrard
Samsung Research UK

GAMES
Destiny Character-Animation System and Lessons Learned

Tuesday, 12 August, 2-5:15 pm
INTERMEDIATE

This course discusses the practical challenges in creating the animation system for Destiny plus solutions, lessons learned, and future development.

Yongjoon Lee
Tam Armstrong
Joe Spataro
Bungie, Inc.

Recent Advances in Light-Transport Simulation: Some Theory and a Lot of Practice

Tuesday, 12 August, 2-5:15 pm
INTERMEDIATE

This overview of recent advances in robust light-transport simulation methods exposes the path-integral formulation of light transport as a unifying framework for many practical global illumination algorithms. Then it focuses on the issues associated with application of these methods in the industry.

Jaroslav Krivánek
Charles University in Prague

Alexander Keller
NVIDIA Research

Iliyan Georgiev
Solid Angle SL

Anton Kaplanyan
Karlsruhe Institut für Technologie

Marcos Fajardo
Solid Angle SL

Mark Meyer
Jean-Daniel Nahmias
Pixar Animation Studios

Wednesday, 13 August

Building an Empire: Asset Production in Ryse

Wednesday, 13 August, 9-10:30 am
ADVANCED

On Ryse: Son of Rome, Crytek appropriated many techniques usually reserved for film production. They used the same assets to make a 90-minute movie and a 10-hour game. This course summarizes what worked and what didn’t, ranging from reference acquisition to final in-game set pieces.

Christopher Evans
Saacha Herfort
Crytek GmbH

Mathematical Basics of Motion and Deformation in Computer Graphics

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

An intuitive introduction to mathematics for describing motion and deformation in computer graphics. Starting with familiar concepts in graphics, such as Euler angle, quaternion, and affine transformation, the course delivers deeper mathematical insights of these concepts to support more useful techniques for efficient, effective creation of computer animation.

Ken Anjyo
OLM Digital, Inc.

Hiroyuki Ochiai
Kyushu University

Why Graphics Programmers Need to Know About DRAM

Wednesday, 13 August, 10:45 am-12:15 pm
INTERMEDIATE

This course describes the subtle and complex behavior of DRAM memory that graphics programmers need to understand when designing for good DRAM latency and power behavior. This is critical: even in systems with high cache hit rates, DRAM behavior has a huge impact on application performance.

Erik Brunvand
Daniel Kopta
University of Utah

Niladrish Chatterjee
NVIDIA Corporation
### Machine Learning for Graphics

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

**Introductory**

Machine learning in increasingly important in graphics. This course explores why and how. It explains that a few simple ideas underpin some of the most imaginative research in contemporary graphics and illustrates the concept by helping non-artists draw, animate traffic, and model moving trees.

Peter Hall  
University of Bath

### Eulerian Solids for Soft Tissue and More!

**Wednesday, 13 August, 2-3:30 pm**

**Intermediate**

An introduction to Eulerian solids methodology for simulating 1-, 2-, and 3-dimensional solids. Eulerian solids are powerful tools for simulating highly constrained systems. The course details the formulation and implementation of Eulerian solids simulators with a focus on mechanical and biomechanical systems.

David I.W. Levin  
MIT CSAIL

Dinesh Pai  
Ye Fan  
The University of British Columbia

### Physically Based Shading in Theory and Practice

**Wednesday, 13 August, 2-5:15 pm**

**Intermediate**

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

Stephen McAuley  
Stephen Hill  
Ubisoft Entertainment S.A.

Jonathan Dupuy  
LIGUM, Université de Montréal  
LIRIS, Université de Lyon, CNRS

Yoshiharu Gotanda  
tri-Ace

Eric Heitz  
INRIA; CNRS; Univ. Grenoble Alpes

Naty Hoffman  
2K

Sébastien Lagarde  
EA Frostbite

Anders Langlands  
Solid Angle

Ian Megibben  
Farhez Rayani  
Pixar Animation Studios

Charles de Rousiers  
EA Frostbite

### Introduction to 3D Gestural Interfaces

**Thursday, 14 August, 2-3:30 pm**

**Introductory**

With the proliferation of inexpensive motion sensing technology, 3D gestural interfaces are becoming common in applications such as video games and mobile computing. This course provides an introduction to design and development of 3D gestural interfaces, from user tracking to gesture recognition and evaluation.

Joseph LaViola  
University of Central Florida

### Scattered Data Interpolation for Computer Graphics

**Thursday, 14 August, 2-5:15 pm**

**Intermediate**

Scattered data interpolation is useful in a surprising variety of applications, from character animation and morphing to rendering and fluid simulation. This course explains the various algorithms for scattered interpolation and approximation, and illustrates them with examples from graphics research and practice.

Ken Anjyo  
OLM Digital, Inc.

J. P. Lewis  
Victoria University Wellington

### Raytracers and Workflow: A Production Perspective

**Thursday, 14 August, 2-5:15 pm**

**Intermediate**

Raytracers occupy an ever-expanding role in production. With this shift, practices, pipelines, and tools are changing. Speakers from major VFX companies discuss ray-tracing in production, from collaboration on “Gravity” and optimizing “The Amazing Spider-Man 2” to implementation of a physically plausible pipeline at Double Negative.

Jesse Andrewartha  
Sony Pictures Imageworks

Soren Ragsdale  
Double Negative

Paul Beilby  
Framestore
Emerging Technologies

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

Attend Emerging Technologies Sessions for discussions with the creators.

Tuesday, 12 August, 3:45-5:15 pm
Emerging Technologies Session 1

Wednesday, 13 August, 3:45-5:15 pm
Emerging Technologies, Session 2

A Collaborative See-Through Display Supporting On-Demand Privacy
David Lindlbauer
Technische Universität Berlin
Toru Aoki
Keio University
Anita Höchtl
FH Oberösterreich in Hagenberg
Yuji Uema
Keio University
Michael Haller
FH Oberösterreich in Hagenberg
Masahiko Inami
Keio University
Jörg Müller
Technische Universität Berlin

A Compressive Light-Field Projection System
Matthew Hirsch
Gordon Wetzstein
Ramesh Raskar
MIT Media Lab

Buru-Navi3: Behavioral Navigations Supporting On-Demand Privacy Using an Illusory Pulled Sensation Created by a Thumb-Sized Vibrator
Tomohiro Amemiya
Hiroaki Gomi
NTT Communication Science Laboratories

Cascaded Displays: Spatio-Temporal Super-Resolution Using Offset Pixel Layers
Douglas Lanman
Felix Heide
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Jan Kautz
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NVIDIA Research

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Holger Hager
Tuncay Cakmak
Cyberith GmbH

Dart-It: Interacting With a Remote Display by Throwing Your Finger Touch
Chih-Chiang Huang
Rong-Hao Liang
Liewei Chan
Bing-Yu Chen
National Taiwan University

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Ryo Konomura
Koichi Hori
The University of Tokyo

Graffiti Fur: Turning Your Carpet Into a Computer Display
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Keio University
Takayuki Hoshi
Nagoya Institute of Technology
Masahiko Inami
Keio University
Takeo Igarashi
The University of Tokyo

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Karim Iwazaki
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Panels

Panels have long been an important part of the annual SIGGRAPH conference because they provide a forum for the community to share experiences, opinions, insights, speculation, disagreement, controversy, and audience interaction with the leading experts in computer graphics and interactive techniques.

Full Conference Access registration allows attendees access to all SIGGRAPH 2014 Panels.

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

Sunday, 10 August

FIRST-TIMER
Ready, Steady ... SIGGRAPH
Sunday, 10 August, 9-10:30 am
Not sure how to plan your time at SIGGRAPH 2014? This panel of seasoned attendees and program chairs explains how to maximize your conference experience, select the “don’t miss” sessions, and decipher the convention center’s layout.

Ann McNamara
Texas A&M University

Angela Anderson
Talley Management Group, Inc.

FIRST-TIMER
The Future is Here: Augmented and Virtual Reality
Sunday, 10 August, 3:45-5:15 pm
Although augmented and virtual reality (AR/VR) has existed in research labs and some niche markets for decades, only recently has it started to gain acceptance for consumers due to technical advances, low costs, easy-to-use software, and more compelling experiences. This panel of AR/VR pioneers will debate the trade-offs of different technologies, discuss important aspects of the end-user experience, describe the challenges of bringing these technologies to the consumer market, and predict the future of these new realities.

Richard Marks
Sony Computer Entertainment America

Palmer Luckey
Oculus VR

Steve Feiner
Columbia University

Jeri Ellsworth
Technical Illusions

Jason Jerald (Moderator)
NextGen Interactions

Monday, 11 August

Sights, Sounds, and Sensors: Where Visualization, Sonification, MEMS, HMDs, and 3D Converge
Monday, 11 August, 9-10:30 am
This panel explores the wide variety of business practices and issues surrounding the current state and confluence of visualization, collaboration, sonification, interactive, and autostereo technologies (3D without glasses), and how sensors, MEMS, and wearables may play a role.

Cynthia Traeger
Pacific

Mark Mine
Walt Disney Imagineering

Chris Mayhew
Vision III Imaging, Inc.

Yuval Boger
Sensics, Inc.

Becky Oh
PNI Sensor Corporation

From Production Artist to Educator: Preparing for the Change
Monday, 11 August, 2-3:30 pm
For many reasons, the nature of doing high-end VFX production work has significantly changed in the last decade, and some veteran production artists are considering a career shift into the scholarly realm of higher education. This Panel examines many of the professional and personal issues involved in making this transition.

Ed Kramer
The Art Institute of Colorado

John Andrew Berton, Jr.
Drexel University

Vince de Quattro
Independent Instructional Designer

Tad Leckman
Academy of Art University, Blizzard Entertainment

Terrence Masson
Northeastern University

Tim McLaughlin
Texas A&M University
Tuesday, 12 August

**MOBILE**

Realizing the Compute Potential of the Mobile GPU

**Tuesday, 12 August, 3:45-5:15 pm**

This panel is designed to benefit advanced programmers and thought leaders who want to learn about the latest advances and future directions of mobile GPU computing to deliver the most balanced, optimized, and efficient experiences using the full capabilities of today’s smartphones and tablets.

Laura O’Connor
Qualcomm Incorporated

Kurt Akeley
Lytro, Inc.

Patrick Moorhead
Moor Insights & Strategy

Eric Demers
Qualcomm Incorporated

David Blythe
Intel Corporation

Jason Sams
Google, Inc.

Dave Shreiner
ARM, Inc.

Kartic Venkataraman
Pelican Imaging Corporation

Wednesday, 13 August

FIRST-TIMER

State of Animation Tools in the Industry

**Wednesday, 13 August, 9-10:30 am**

This panel brings together animators and engineers to present, discuss, and examine their views on animation tools used in the industry. Topics include: the driving forces behind these tools, exploration of animator workflows, technologies and techniques, interaction between animators and engineers, and future trends.

Paul DiLorenzo
DreamWorks Animation

Matthew Gong
Walt Disney Animation Studios

Fredrik Nilsson
Pixar Animation Studios

Evan Goldberg
Autodesk Inc.

Rob Jensen
Rhythm & Hues Studios

Martin de Lasa
Warren Trezevant

Cyrus Wilson

Cultivating Creative Thinking: Stories From the Field

**Wednesday, 13 August, 2-3:30 pm**

Creative thinking across disciplines is what distinguishes the perfunctory from the inspired. Hear reflections from renowned individuals whose work depends on successful integration of art and science in various ways. Inventors, artists, engineers, and leaders reflect on organizational and individual creativity, and the factors that nurture and inspire it.

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

Paul Dietz
Microsoft Research

Mk Haley
Disney Research

Roger Malina
University of Texas at Dallas

Ramesh Raskar
MIT Media Lab

Thursday, 14 August

GAMES

An Evaluation of University Education as it Relates to the VFX, Animation, and Game Industries

**Thursday, 14 August, 10:45 am-12:15 pm**

This ever-changing digital age requires individuals with different perspectives to coalesce around ideas to create new techniques and paradigms that enable both academia and industry to thrive. This intelligent, spirited, creative, committed panel examines how education and industry can work together to unite their visions during this era of profound change.

Margaret Lomas Carpenter
Frederic Parke
Texas A&M University

Donald House
Jerry Tessendorf
Clemson University

Dave Walvoord
DreamWorks Animation

David Parrish
Reel FX, Inc.

Jack Stenner
University of Florida

Gracie Arenas Strittmatter
BioWare

Michelle Robinson
Walt Disney Animation Studio
Production Sessions

Where the world’s most elite and talented computer graphic experts and creative geniuses explain their processes and techniques for creating compelling content. Following each presentation, attendees ask questions about the challenges and issues associated with complex productions.

A complete list of Production Sessions will be available by 1 July on the SIGGRAPH 2014 web site.

Building Blocks for “The LEGO Movie”

The LEGO Movie is a CG animated feature film set in a world made entirely of Lego bricks. It was Critical to the filmmakers that this world maintain a highly realistic connection to the look and feel of real Lego.

What resulted was a unique, photo-realistic, stop motion aesthetic and animation style, with everything on screen including the characters, sets, oceans and explosions being built and realized with accurate CG Lego bricks.

Essential to the story was the dynamic construction (and destruction!) of any of these elements into component bricks. And with a desire to echo the creative possibilities of Lego itself, Animal Logic’s team of “masterbuilders” built a comprehensive Lego toolset that ensured artists could access and manipulate individual bricks, or the bricks within any asset, to create unique and spontaneous additions to the content of a shot. The results were often unscripted and highly entertaining.

Making a CG feature entirely from bricks was a new and exciting challenge, resulting in something quite different from conventional animation processes.

Panelists
Grant Freckleton, Production Designer
Rob Coleman, Head of Animation
Aidan Sarsfield, CG Supervisor
Daniel Heckenberg, R&D Lead

Creating the Amazon in “Rio 2”

Building one tree in a CG environment can be an interesting story to tell but creating the Amazon Jungle in Rio 2 is a much larger tale! In order to bring this massive jungle to the screen, the Blue Sky team had to consider the overall scale, diversity of plants and trees, density of assets on the ground and in the treetops and choreography of moving cameras in order to give the audience the feeling of birds in flight with unparalleled views of the world’s most unique ecosystem. Blue Sky Artists and Technical Directors created an infinite jungle out of a carefully designed collection of parts and assets, and brought it to life by building rigs for secondary animation. There was a constant need to find efficient ways to work with complex heavy files, create staging areas that stayed consistently overgrown all coupled with a stereoscopic version that felt as dense as it did in 2D. All of the departments had to come together to influence and support each other’s processes to build this technically challenging yet beautiful, lush environment that was used in multiple sequences throughout the film.

Panelists
Tom Humber, Lead Set Designer
Karyn Monschein, Sr. Camera & Staging Artist and Technical Lead
John Kalaigian, Assembly Technical Director
David Barksdale, Lead Fur Technical Director
Alen Lai, Lead Effects Technical Director

Creating Content to Drive Destiny’s Investment Game: One Solution to Rule Them All

A core design pillar for Bungie’s upcoming title “Destiny” is the player customization and investment. Incorporating the deep customization elements from action role-playing games into the hard-core shooter dynamic has a number of challenges. Come learn the solution we have developed to enable Bungie to bring this highly ambitious plan to life. Learn about the tools, processes, design and engineering choices that enabled us to create a large variety of high-quality investment content, such as player gear, weapons, ships, usable for combat and social scenarios in game. Learn about the system that makes the most of the art created, supports heavy reuse and continuous content growth and is built for the evolution of the Destiny franchise, yet gives the artists ability to make strong visual impact in an easy and fast manner.

Panelists
Shi Kai Wang, Senior 3d Art Lead
Natalya Tatarchuk, Graphics Engineering Architect

TM and © 2014 Twentieth Century Fox Film Corporation. All rights reserved. Photo Credit: Blue Sky Studios
DreamWorks Animation Presents: The Growth of “How To Train Your Dragon 2”

In this behind-the-scenes panel on the feature animated film, How To Train Your Dragon 2 (June 2014), Writer/Director Dean DeBlois charts the growth of the characters and the nuanced filmmaking necessary to fully realize this next adventure in the secret and emotional world of dragons. Set five years later, Dragon 2 embraces the aging up of the characters, the matured tone, the heightened stakes, the more sophisticated design of the world and the growth of the technology required to meet these challenges. The artistic leadership of Dragon 2 will discuss the creative contributions that went into advancing the complexity and believability of the storytelling and the cinematography, as well as the leap forward the animators were able to make using Apollo, DreamWorks Animation’s ground-breaking next generation animation system.

Panelists
Dean DeBlois, Writer/Director
Gil Zimmerman, Head of Layout
Simon Otto, Head of Character Animation
Dave Walvoord, VFX Supervisor

Industrial Light & Magic Presents: Deconstructing the Visual Effects of “Transformers: Age of Extinction”

From the invading alien race that threatens life as we know it to the Autobots that rise up to protect humanity, this panel will discuss the wide-ranging scope of the visual effects work on Michael Bay’s blockbuster ‘Transformers: Age of Extinction.’ The team will cover creative and technical challenges overcome in the areas of asset development, character animation, lighting, digital environments, advanced simulation work and crafting transformations unlike any ever seen before.

Panelists
Scott Farrar, ASC, Visual Effects Supervisor
Pat Tubach, Associate Visual Effects Supervisor
Scott Benza, Animation Supervisor
Michael Balog, Lead FX Technical Director

Industrial Light & Magic Presents: Capturing the “Teenage Mutant Ninja Turtles”

Visual Effects Supervisor Pablo Helman and the team from ILM will discuss the art and science behind the heroic Ninja Turtles. The panelists will cover a range of topics from the development of a state-of-the-art high-resolution facial performance capture system deployed for the first time on this film to animating the dynamic action sequences and generating completely CG photorealistic environments. Along with advances in full body performance capture utilizing ILM’s patented IMOCAP system, this new technology represents the highest fidelity, dynamically editable capture ever undertaken.

Panelists
Pablo Helman, Visual Effects Supervisor
Robert Weaver, Associate VFX Supervisor
Tim Harrington, Animation Supervisor
Michael Koperwas, Creature CG Supervisor
Kiran Bhat, R&D Lead
Inside the Magical World of Disney’s “Maleficent”

“Maleficent” explores the untold story of Disney’s most iconic villain from the classic ‘Sleeping Beauty’ and the elements of her betrayal that ultimately turn her pure heart to stone. Set in a fantastical world of faeries, magical creatures, and otherworldly environments, the panelists will discuss the large range of challenges they tackled during the production. From facial motion capture to virtual character and set design and everything in between.

**Panelists**
Carey Villegas, Senior VFX Supervisor
David Seager, MPC CG Supervisor
Kelly Port, Digital Domain VFX Supervisor

The Making of “Captain America: The Winter Soldier”

After the cataclysmic events in New York with The Avengers, Marvel’s “Captain America: The Winter Soldier” finds Steve Rogers, aka Captain America, living quietly in Washington, D.C. and trying to adjust to the modern world. But when a S.H.I.E.L.D. colleague comes under attack, Steve becomes embroiled in a web of intrigue that threatens to put the world at risk. Joining forces with the Black Widow, Captain America struggles to expose the ever-widening conspiracy while fighting off professional assassins sent to silence him at every turn. When the full scope of the villainous plot is revealed, Captain America and the Black Widow enlist the help of a new ally, the Falcon. However, they soon find themselves up against an unexpected and formidable enemy—the Winter Soldier. Marvel Studios, ILM, Scanline VFX, and Lola take SIGGRAPH audiences through their VFX journey as they created some of the movie’s most heart-stopping moments.

**Panelists**
Dan DeLeeuw, VFX Supervisor
Russell Earl, VFX Supervisor ILM
Bryan Grill, VFX Supervisor Scanline VFX
Edson Williams, VFX Supervisor Lola

Making “Gravity” at Framestore

This talk describes Framestore’s work on “Gravity”, including the involvement in the pre-production, filming and post production of the movie.

**Panelists**
Tim Webber, Overall VFX Supervisor
Chris Lawrence, Framestore CG Supervisor
Martin Preston, Framestore Head of R&D
The Making of “Guardians of the Galaxy”

From Marvel, the studio that brought you the global blockbuster franchises of Iron Man, Thor, Captain America and The Avengers, comes a new team—the Guardians of the Galaxy. An action-packed, epic space adventure, Marvel’s “Guardians of the Galaxy” expands the Marvel Cinematic Universe into the cosmos, where brash adventurer Peter Quill finds himself the object of an unrelenting bounty hunt after stealing a mysterious orb coveted by Ronan, a powerful villain with ambitions that threaten the entire universe. To evade the ever-persistent Ronan, Quill is forced into an uneasy truce with a quartet of disparate misfits—Rocket, a gun-toting raccoon; Groot, a tree-like humanoid; the deadly and enigmatic Gamora; and the revenge-driven Drax the Destroyer. But when Quill discovers the true power of the orb and the menace it poses to the cosmos, he must do his best to rally his ragtag rivals for a last, desperate stand—with the galaxy’s fate in the balance. Marvel Studios, MPC and Framestore take SIGGRAPH audiences through their VFX journey as they created some of the movie’s most heart-stopping moments.

Panelists
Stephane Ceretti, VFX Supervisor
Olivier Dumont, 2nd VFX Supervisor
Nicolas Aithadi, VFX Supervisor MPC
Jonathan Fawkner, VFX Supervisor Framestore

Making “The Dam Keeper”: How Two First-Time Directors Brought Paint to Life in Their Animated Short Film

“The Dam Keeper”, the directorial debut of feature-animation artists Robert Kondo and Dice Tsutsumi, blends traditional hand-drawn animation with digital paintings to bring Kondo and Tsutsumi’s celebrated painting style to life. The award-winning short film tells the story of a young Pig with an important job, and a new classmate that changes everything.

This presentation details not just how this unique film was made, but highlights the risks, rewards, and lessons learned along the way. The session opens with a screening of the 18 minute short. Afterwards, the filmmakers will discuss how it was produced in a 9-month, after-hours schedule with 70+ filmmakers collaborating thanks to the help of cloud-based technology. Directors Kondo and Tsutsumi will also detail how the artistry of the film’s original style was achieved using Autodesk Maya, TVPaint, Adobe Photoshop and Adobe After Effects.

The film made its premiere at the 2014 Berlin Film Festival and continues to screen at festivals world-wide, and received awards at the New York Children’s International Film Festival, TIFF Kids, and the 2014 San Francisco International Film Festival. Come step inside the world of “The Dam Keeper”. www.TheDamKeeper.com

Panelists
Robert Kondo, Director
Dice Tsutsumi, Director
Megan Bartel, Producer
Erick Oh, Supervising Animator

The Production and Visual Effects of “Killzone Shadow Fall”

With the arrival of next generation consoles comes more processing power and memory… and with that, a whole lot more possibilities. Take an exclusive look behind the scenes of this Playstation 4 launch title and hear about the challenges the team was faced with during production. Learn more about the engine’s new lighting and shading tech and take a closer look at how some of the effects like dynamic dust, rain and various particle effects are achieved.

Panelists
Marijn Giesbertz, Lead Visual Effects
Michal Valient, Lead Tech
Puppets, Printing And Compositing: A Unique Collaboration In LAIKA’s Animated Features

From inspiration to Oscar noms, Oregon-based LAIKA has garnered global acclaim for its unprecedented fusion of stop-motion and computer graphics within each feature film. The studio’s environment embraces the hybrid of artistic puppet performance and stunning visual effects enhancements. Georgina Hayns (Creative Supervisor, Puppet Fabrication), Brian McLean (Director of Rapid Prototype) and Steve Emerson (Co-VFX Supervisor) will discuss their interdepartmental relationships on the upcoming feature The Boxtrolls (in theaters September 26). They will also address the challenges, solutions—and learnings—that led to the success of LAIKA’s first two Oscar-nominated films: Coraline (2009) and ParaNorman (2012).

Panelists
Brian McLean, Director, Rapid Prototyping
Georgina Hayns, Creative Supervisor, Puppet Fabrication
Steve Emerson, Co-VFX Supervisor

Twentieth Century Fox Presents the Visual Effects of “X-Men: Days of Future Past”

This year, the ultimate X-Men ensemble was brought together to fight a war for the survival of the species across two time periods. With the visual effects work led by Production VFX Supervisor Richard Stammers, “X-Men: Days of Future Past” showcased some of the most spectacular effects of the summer. Experts from MPC (Moving Picture Company), Digital Domain, Rhythm & Hues and Rising Sun Pictures will illustrate the approaches used to create a wide range of VFX work, from the creation of the past and future Sentinels, to the epic RFK stadium and White House destruction and the complexities of creating mutant powers for Magneto, Colossus, Iceman, Quicksilver, Sunspot, Blink, Wolverine and Mystique.

Panelists
Benoit Dubuc, Animation Supervisor, MPC
Lou Pecora, VFX Supervisor, Digital Domain
Derek Spears, VFX Supervisor, Rhythm & Hues
Adam Paschke, DFX Supervisor, Rising Sun Pictures

Unmask the Secrets Behind “The Amazing Spider-Man 2”

Sony Pictures Imageworks created much of the visual effects for THE AMAZING SPIDER-MAN 2, the sequel to the 2012 blockbuster directed by Marc Webb. The VFX team was challenged with the introduction of new villains, extensive digital environments and CG animation. Join Sony Pictures Imageworks visual effects leads for an inside look at this “amazing” film.

Panelists
Jerome Chen, VFX Supervisor
David Schaub, Animation Supervisor
David Smith, DFX Supervisor
Do not miss our line-up of evil geniuses, mad scientists, and creative computer gods as they overwhelm you with the latest and greatest techniques for pushing the boundaries of interactive innovations.

Augmented/Virtual Reality Competition
Developers are encouraged to create and showcase the best augmented/virtual reality experiences possible using today’s technologies. Up to three finalists will be selected to preview their technology at SIGGRAPH 2014, during Real-Time Live! The winning team will then be announced from the Real-Time Live stage.

All finalists will also have the opportunity to demonstrate their system to attendees during SIGGRAPH 2014’s Appy Hour, Wednesday, 13 August, 5:30-7:30 pm.

Destruction Sequences in Call of Duty: Ghosts
David Johnson
Alessandro Nardini
Infinity Ward

Fantasia: Music Evolved
Mike Fitzgerald
David Battilana
Harmonix Music Systems, Inc.

Freeform: Digital Sculpting With Adaptive Surface Topology and Seamless 3D Coordinate Systems
Raffi Bedikian
Adrian Gasinki
David Holz
Leap Motion

Make Your Own Avatar
Ari Shapiro
Andrew Feng
USC Institute for Creative Technologies
Rhuizhe Wang
Hao Li
Gerard Medioni
University of Southern California
Mark Bolas
Evan Suma
USC Institute for Creative Technologies

NVIDIA FlameWorks - Real Time Fire Simulation
Simon Green
Nuttapong Chentanez
Aron Zoellner
Johnny Costello
Kevin Newkirk
Dane Johnston
NVIDIA Corporation

Real Time is Now
Isaac Cohen
Cabbibo

Real-Time Animation of Cartoon Character Faces
Emiliano Gambaretto
Charles Piña
Mixamo, Inc.

SIGGRAPH 2014 Augmented/Virtual Reality Contest Winner Presentation

Image credit: FlameWorks - Real-Time Fire Simulation © 2014 Simon Green, Nuttapong Chentanez, Aron Zoellner, Johnny Costello, Kevin Newkirk, Dane Johnston, NVIDIA Corporation
A preliminary list of Studio Courses, Talks, and Projects.

In this collaborative working environment, the latest technologies and brightest minds come together to learn, experiment, and create. Explore the Studio and try out a wide range of new techniques and media with help from experienced hands. Play with the latest in 3D printing, modeling, and animation software. Bring your ideas to life with tomorrow’s technologies in gigapixel imaging, motion capture, and more.

Computer Lab Open

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<td>Monday, 11 August</td>
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Seating is on a first-come, first-served basis.
Please arrive early for the Studio Talks and Courses you wish to attend.

Image credit: Arduino Drawing Machines (c) 2014 Erik Brunvand, Paul Stout, University of Utah; Ginger Alford, Trinity Valley School and Fort Worth Museum of Science and History

### Studio Courses

For specific information regarding pre-conference course preparations please check the website. Seating and resources are limited for all courses. Links to software downloads and file preparations are available for each course requiring advanced preparations.

#### Arduino Drawing Machines

**Sunday, 10 August, 12:30-5:15 pm**

Participants design, program, build, and demonstrate drawing machines.

Erik Brunvand  
Paul Stout  
University of Utah  
Ginger Alford  
Trinity Valley School and Fort Worth Museum of Science and History

#### High Resolution 3D Printing: Design for Stereolithography

**Monday, 11 August, 9:15-10:45 am**

Personal 3D printing is rapidly becoming a high impact tool for the artist. This short studio introduces design for 3D printing on the Stereolithography-based Form 1 printer. The first 15 students will have continued access to printers during the conference exhibition to test several iterations of their designs.

Will Walker  
Formlabs, Inc.

#### Design Tips for Digital T-Shirt Printing

**Monday, 11 August, 2-3:30 pm**

This course details the special design elements that need to be taken into account when working with direct-to-garment printers. Participants will bring prepared vector artwork to create printable files for t-shirts. T-shirts are provided free-of-charge.

Eddie Murphy  
Epson America, Inc.

#### Make Cross-Platform Mobile Apps Quickly

**Monday, 11 August, 3:45 - 5:15 pm**

Learn how to build mobile apps quickly and easily using a variety of free open-source tools.

Gil Irizarry  
Conoa, Inc.

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### FIRST-TIMER

**Come Create a Drawing Machine**

All SIGGRAPH 2014 attendees are invited to design drawing machines and enter them in a new competition. Here’s how:

**Sunday, 10 August, 12:30-5:15 pm**

Attend the Studio Course on using Arduino software and hardware to assemble kinetic sculptures that make marks on paper. First come, first served. Arrive early for this course. Supplies are limited, and course attendees have priority access to hardware components.

**Monday-Wednesday**

Create and test your drawing machine in the project area.

**Wednesday, 13 August, 4 pm**

Enter the Studio’s drawing-machine competition. Entries are judged by the crowd and a celebrity guest. Judging criteria: overall design, function, and drawing quality. This event features a cash bar and prizes will be awarded.
Creating Next-Gen 3D Interactive Apps With Motion Control and Unity3D

Tuesday, 12 August, 9:15-10:45 am

Through a series of live-coded examples, this course introduces attendees to the fundamentals of using the Unity3D engine for game and application development, integrating the Leap Motion Controller into an application, and designing and developing a next-generation 3D interactive application with motion control.

David Holz
Daniel Plemmons
Leap Motion, Inc.

Shadertoy Hackathon

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

Come and enjoy the Shadertoy Hackathon organized in collaboration with SIGGRAPH. Bring your laptop, your knowledge, and show the world what you can do with shaders! Spectators are also welcome to watch an event full of technology and creativity.

Pol Jeremias
Inigo Quilez
Beautypi

Developing a 3D Model Viewer for iOS Using COLLADA and OpenGL ES

Tuesday, 12 August, 2-5:15 pm

This hands-on, interactive Studio course delivers a native iOS app built from scratch, with powerful 3D graphics technologies from the Khronos Group. It explores the latest Xcode IDE and SDK frameworks to develop the skills and learn the tools needed to make an engaging, mobile, 3D model viewer.

Ricardo Rendon Cepeda
Idean, RayWenderlich.com

3D Scanning for Personal 3D Printing

Wednesday, 13 August, 9:15 am -12:30 pm

3D printing has entered the mainstream. Multiple low-cost desktop 3D printers are currently available from various vendors, and open-source projects let hobbyists build their own. This course addresses the technical and practical problems associated with building a desktop 3D scanner for 3D printing.

Gabriel Taubin
Daniel Moreno
Brown University

alphaBot Workshop: Constructing Robots, Translating Language

Wednesday, 13 August, 2-5:15 pm

In this workshop on how to use open-source robots as tools to affect the experience of language, attendees construct simple robotic drawing machines from a kit of parts and program them to draw and write.

Ashley Pigford
University of Delaware

Data Visualization: A Starting Point

Thursday, 14 August, 9:15 am - 12:30 pm

This course provides both a theoretical and practical introduction to data visualization. Due to the wide nature of data sources, a two-fold approach introduces both information visualization for abstract data and scientific visualization for inherently spatial data.

Robert S. Laramée
Swansea University

Talk Sessions


Monday, 11 August, 9-10:30 am

Cellular Forms: An Artistic Exploration of Morphogenesis

Andy Lomas
The Foundry Visionmongers Ltd

Quantum Computing for Art Exploration and Creation

Alain Lioiret
Université Paris VIII

Emotion of Colors: Synesthetic Cross-Modal Key Modulation

DongSheng Cai
University of Tsukuba
Nobuyoshi Asai
University of Aizu
Noriko Nagata
Kwansei Gakuin University


Monday, 11 August, 2-3:30 pm

The Making of the Seattle GigaPixelArtZoom

Michael Cohen
Matt Uyttendaele
Microsoft Research

Data and Methods for Recreating Earthrise

Ernest Wright
Universities Space Research Association

HDR in the Living Room

Tania Pouli
Ronan Boitard
Christel Chamaret
Mekides Assefa Abebe
Catherine Serre
Édouard François
Erik Reinhard
David Touze
Technicolor Research & Innovation

Studio: Think.Design.Do.

Tuesday, 12 August, 9-10:30 am

The Role of Conversational Models in Design Practice

Gerry Derksen
Winthrop University

Out of the Screen: 3D Printing and Design

Will Walker
Formlabs, Inc.

Virtual and Material – Applied Research at Emily Carr University of Art + Design

Maria Lantin
Keith Doyle
Emily Carr University of Art + Design


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

Branching Support Structures for 3D Printing

Ryan Schmidt
Nobuyuki Umetani
Autodesk Research

Exploring Board Game Design Using Digital Technologies

Taro Narahara
New Jersey Institute of Technology

Turning Free-Form Surfaces into Manufacturable Components

Philipp Herholz
Marc Alexa
Technische Universität Berlin
Wojciech Matusik
MIT CSAIL
**Studio: Bing! Bang! Boom!**

**Wednesday, 13 August, 9-10:30 am**

**Impact of Digital Media on Comics**
Ozge Samanci
Northwestern University

**Avant-Garde Videogames**
Brian Schrank
DePaul University

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**Studio: Dissect.Visualize.Educate.**

**Thursday, 14 August, 9-10:30 am**

**My Corporis Fabrica: Making Anatomy Easy**
Armelle Bauer
François Faure
INRIA Rhône-Alpes

**Virtual Dog Head: Using 3D Models to Teach Complex Veterinary Anatomy**
Matt Viehdorfer
Sarah Nemanic
Serena Mills
Mike Bailey
Oregon State University

**Charismatic and Eloquent Instructor Avatars with Scriptable Gesture**
Jian Cui
Nicoletta Adamo-Villani
Voicu Popescu
Purdue University

**Development of Communication-Assistant Application With Blinking for Physically Handicapped Children and Elderly People**
Ippei Torii
Kaoruko Ohtani
Aichi Institute of Technology

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**Studio Projects**

**Draco: Sketching Animated Drawings with Kinetic Textures**
A sketch-based interface that allows artists and casual users alike to add a rich set of animation effects to their drawings. The tool is built on kinetic textures to provide continuous animation effects while preserving the unique, timeless nature of still illustrations.

Rubaiat Habib Kazi
Autodesk Research

Fanny Chevalier
INRIA

Tovi Grossman
Autodesk Research

Shengdong Zhao
National University of Singapore

George Fitzmaurice
Autodesk Research

**Bitcube: The New Kind of Physical Programming Interface with Embodied Programming**
BitCube is a new, simplified way of interacting with art and technology. If you have BitCube, you can also learn programming logic without the need for PC literacy and easily create artistic works.

Jaeyoung Kim
Byongsue Kang
Shinyoung Rhee
Byeongwol Kim
Heyonjin Yun
HELLO!GEEKS Inc.

Junghwan Sung
Soongsil University

**SprBlender: Creation Environment for Touchable Characters**
With SprBlender, you can model and enjoy direct touchable interaction with your characters. Design your characters’ appearance, physics, and behaviors in Blender, then use SprBlender to create touchable 3D characters.

Hironori Mitake
Takahiro Harano
Shingo Fujinaga
Shunsuke Matsuyama
Shinichi Shibata
Shoichi Hassegawa
Tokyo Institute of Technology

**Mag-B: Tactile Sand Play Using an Interactive Magnetic Display**
This project describes installation of an interactive sand work, plus a workshop to create a device called Mag-B, which presents a tactile experience using an interactive magnetic display. The project uses tactile and visual electromagnetic interaction as a power source for tactile presentation.

Kumiko Kushiyama
Tokyo Metropolitan University

**Hyve-3D: A New Embodied Interface for Immersive Collaborative 3D Sketching**
Hyve-3D is an interface for 3D content creation via collaborative 3D sketching. It introduces a semi-spherical, immersive 3D sketching environment based on spherical panoramas and uses 2D drawing planes that are intuitively manipulated in 3D space with tracked handheld tablets.

Tomáš Dorta
Gokce Kinayoglu
Université de Montréal
Michael Hoffmann
codemacher UG

**Tangible and Modular Input Device for Character Articulation**
In this modular mechanical device for animation authoring, the pose of the device is sensed at interactive rates, so the user can quickly pose characters rigged with a skeleton of arbitrary topology. The mapping between the physical device and virtual skeleton is semi-automatically computed starting from sparse-user correspondences.

Alec Jacobson
Daniele Panazzo
Oliver Glauer
ETH Zürich

Cedric Pradalier
GeorgiaTech Lorraine

Otmar Hilliges
Olga Sorkine-Hornung
ETH Zürich

**Physical Painting With a Digital Airbrush**
Airbrush painting artists utilize unrepeatable spray patterns and unique ink staining to express their subjective style and artistic intentions. This project demonstrates a custom augmented airbrush device that acts both as a physical spraying device and an intelligent digital guiding tool, which maintains both manual and computerized control.

Roy Shilkrot
Patte Maes
Amir Zoran
MIT Media Lab
**Graffiti Fur: Turning Your Carpet into a Computer Display**

A display technology that utilizes the changing shading properties of fur as the fibers are raised or flattened.

Yuta Sugiura  
Koki Toda  
Keio University  
Takayuki Hoshi  
Nagoya Institute of Technology  
Masahiko Inami  
Keio University  
Takeo Igarashi  
The University of Tokyo

**Creation Station**

The Studio’s Creation Station provides a space for direct hands-on projects that combine digital technologies with traditional artist materials.

Lyn Bishop  
Art Farm  
Nance Paternoster  
Digital Artist

**Arizona State University’s Zenith Object Detector (ZOD): A Multi-Camera, Large-Scale, 3D Scanning Platform**

The Zenith Object Detector uses 16 digital cameras and an Asus Xtion mounted on a custom rig to provide full 3D body scanning. Attendees can request scans, take their data home, and make physical figures of themselves using 3D printers.

Aubrey Wigner  
Don Vance  
Josh Gigantino  
Dan Collins  
Mike Bortfeld  
Arizona State University

**Computational Bead Design**

An interdisciplinary project designed to introduce students (K-16) to computing, digital modeling, and additive manufacturing techniques. Utilizing Python, Grasshopper and Rhino 3D, this project highlights the bead as a marker of our current technological advancements through computing and 3D printing.

Marguerite Doman  
Courtney Starrett  
Christopher Smallis  
Lauren Copley  
Chelsea Arthur  
Winthrop University

**Gigamacro**

Generate 3D content and models using robotic camera systems. The systems capture detail at the microscopic level can generate both 2.5D depthmaps for low relief objects and full 3D models of complex subjects. Export the results for 3D printing, CNC milling or exploring and sharing online.

Gene Cooper  
Graham Bird  
GIGAmacro
SIGGRAPH 2014 Talks highlight the latest developments before publication, present ideas that are still in progress, or showcase how computer graphics and interactive techniques are actually implemented and used, in graphics production or other fields.

Full Conference Access registration allows attendees access to all SIGGRAPH 2014 Talks.

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Image credit: Developing Interactive Facial Rigs in Production Environment © 2014 Jaewoo Seo, Weta Digital; J.P. Lewis, Victoria University

**Sunday, 10 August**

**Capture and Display**

**Sunday, 10 August, 10:45 am-12:15 pm**  
Session Chair: Evan Hirsch, Engine Company 4

Capturing the Infinite Universe in “Lucy” - Fractal Rendering in Film Production  
Alex Kim  
Daniel Ferreira  
Industrial Light & Magic

Creating a Life-Sized Automultiscopic Morgan Spurlock for CNN's “Inside Man”  
Andrew Jones  
USC Institute for Creative Technologies  
Jonas Unger  
Linköpings universitet  
Koki Nagano  
Jay Busch  
Xueming Yu  
Hsuan-Yueh Peng  
Oleg Alexander  
Paul Debevec  
USC Institute for Creative Technologies

Premo: A Natural-Interaction Animation Platform  
Matthew Gong  
Fredrik Nilsson  
Alex Powell  
Jason Reisig  
DreamWorks Animation

Stuart Bryson  
DreamWorks Animation  
Esteban Papp  
Globant  
Paul DiLorenzo  
DreamWorks Animation

**On the Rocks**

**Sunday, 10 August, 2-3:30 pm**  
Session Chair: Rajesh Sharma, Walt Disney Animation Studios

Frozen on Ice: Rendering Frost and Ice on “Frozen”  
Lewis Siegel  
Walt Disney Animation Studios

Weathering The Black Hole for “Mr. Peabody & Sherman”  
Jihyun Yoon  
Tyson Erze  
Krzysztof Rost  
Robert Chen  
DreamWorks Animation

Packing the Water Pipe  
Dan Bailey  
Harry Biddle  
Matt Warner  
Double Negative Visual Effects

Large-Scale Simulation and Surfacing of Water and Ice Effects in “How to Train Your Dragon 2”  
Baptiste Van Opstal  
Lucas Janin  
Ken Museth  
Mhai Alden  
DreamWorks Animation

**GAMES**

**Got Crowds?**

**Sunday, 10 August, 2-3:30 pm**  
Session Chair: Eleni Kostis, (NASA Goddard Space Flight Center, Scientific Visualization Studio)

The Tengu Monk Fight Sequence  
Andrew Hayes  
Framestore

CrAM: Artist-Friendly Crowds on Edge of Tomorrow  
John Hood  
Sony Pictures Imageworks

Level of Detail in an Age of GI: Rethinking Crowd Rendering  
Paul Kanyuk  
Pixar Animation Studios

Creating the Flying Armadas in “Guardians of the Galaxy”  
Rob Piekê  
Lucy Bailey  
Kai Wolter  
Alan Stanziione  
Jo Plaete  
MPC
Everything is Awesome

Sunday, 10 August, 3:45-5:15 pm
Session Chair: Doug Roble, Digital Domain

“The LEGO Movie”: Construction, Animation, and Demolition
Bryan Smith
Aloys Baillet
Eoin Murphy
Aidan Sarsfield
Daniel Heckenberg
Animal Logic

Tuning Facial Animation in a Mocap Pipeline
Yeongho Seol
J.P. Lewis
Weta Digital

Assembling Environments With LEGOscape
Joseph Hegarty
Bryan Smith
Jens Jebens
John Paul Molloy
Animal Logic

“THE LEGO MOVIE”: Bricks, Bricks, and More Bricks
Bryan Smith
Daniel Heckenberg
Jean-Pascal LeBlanc
Animal Logic

Monday, 11 August

GAMES

Capture in Depth

Monday 11 August, 9-10:30 am
Session Chair: Bill Polson, Pixar Animation Studios

Rapid Avatar Capture and Simulation Using Commodity Depth Sensors
Andrew Feng
Ari Shapiro
USC Institute For Creative Technologies
Wang Ruihe
Hao Li
University of Southern California
Mark Bolas
USC Institute for Creative Technologies
Gerard Medioni
University of Southern California
Evan Suma
USC Institute for Creative Technologies

Live Real-Time Animated Content-Leveraging Machine Learning and Game-Engine Technology
Stefano Corazza
Charles Piña
Emiliano Gambaretto
Mixamo, Inc.

Alternative Strategies for Run-Time Facial Motion Capture
Izmeth Siddeek
Vancouver Institute of Media Arts

Real-Time Motion Capture of the Human Tongue
Eric Farrar
Coleman Eubanks
Arvind Balasubramanian
University of Texas at Dallas

Simulation

Monday 11 August, 9-10:30 am
Session Chair: Jesse Barker, ARM Ltd.

A Continuum Model for Simulating Crowd Turbulence
Abhinav Golas
University of North Carolina at Chapel Hill
Rahul Narain
University of California, Berkeley
Ming C. Lin
University of North Carolina at Chapel Hill

Mobile GPU Compute: Exploring the Mobile GPU Through OpenCL
Adrian Bucur
Samsung Advanced Institute of Technology

ASTC: The Extra Dimension
Daniele Di Donato
Sylvestre Bala
Stacy Smith
Doug Day
ARM Ltd.

Dynamic On-Mesh Procedural Generation Control
Cyprien Buron
Technicolor R&D France

Show and Tell

Monday 11 August, 2-3:30 pm
Session Chair: Ginger Alford, Trinity Valley School

Stina and the Wolf - Feature Film Production in Education
Alexander Counsell
Paul Charisse
University of Portsmouth

Dark Matter - A Tale of Virtual Production
Yafes Sahin
Simon Spielmann
Martin Backhaus
Filmakademie Baden-Württemberg

The Making of “Owned”: A Student-Built Iterative Pipeline
Seth Holladay
Brent Adams
Brian Kingery
Daniel Clark
Carson Crawford
Kaleb Goulding
Jeff Raines
Evan Roberts
Susan Hatton
Andrew Rasmussen
Brigham Young University
Rigging the Outcome

Monday, 11 August, 3:45-5:15 pm
Session Chair: Kristy Pron, National Defense University

Building Highly Parallel Character Rigs
Robert Helms
Guido Zimmermann
Kevin Ochs
DreamWorks Animation

Delta Mush: Smoothing Deformations While Preserving Detail
Joe Mancewicz
Matt Derksen
Cyrus Wilson
Rhythm & Hues Studios

Steroids: A Controllable Approach to Skin Simulation
Aloys Baillet
Animal Logic

Resculptors: Layered Curve-Based Deformers
Michael Hutchinson
Guido Zimmermann
Robert Helms
DreamWorks Animation

Tuesday, 12 August

Creature Feature

Tuesday, 12 August, 9-10:30 am
Session Chair: Nafees Bin Zafar, DreamWorks Animation

RepTile: How To Skin A Dinosaur
Daniel Heckenberg
Joseph Hegarty
Animal Logic

Comanches vs. Cavalry: Artistically Directable In-Crowd Ragdoll Simulation
Jo Plaete
Adam Davis
Alan Stanziene
MPC

Procedural Tentacle Bundles in “Edge of Tomorrow”
Daniel Sheerin
Sony Pictures Imageworks

Grooming a Lion for “Hercules”
Francesco Giordana
Sarah Macdonald
Gianluca Vatinno
Double Negative Visual Effects

Sampling

Tuesday, 12 August, 10:45 am-12:15 pm
Session Chair: Juan Miguel de Joya, University of California, Berkeley

Silencing the Noise on Elysium
Luke Goddard
Andrew Kaufman
Image Engine Design, Inc.

Path Space Similarity Determined by Fourier Histogram Descriptors
Pascal Gautron
Marc Droske
Carsten Waechter
Lutz Kettner
Alexander Keller
Nikolaus Binder
Ken Dahm
NVIDIA Corporation

Hierarchical Digital-Differential Analyzer for Efficient Ray-Marching in OpenVDB
Ken Museth
DreamWorks Animation

Importance Sampling for a Microcylinder-Based Cloth BSDF
Feng Xie
DreamWorks Animation

About Face

Tuesday, 12 August, 10:45 am-12:15 pm
Session Chair: Fred Parke, (Texas A&M University)

“Gravity”: Motion Control and Face Integration
Pierre-Loïc Hamon
Stuart Penn
James Harmer
Nicolas Scapel
Framestore

Developing Interactive Facial Rigs in a Production Environment
Jaewoo Seo
Weta Digital
J.P. Lewis
Victoria University of Wellington

DreamWorks Animation’s Face System, a Historical Perspective: From “Antz” and “Shrek” to “Mr. Peabody & Sherman”
Lucia Modesto
DreamWorks Animation

Think Big

Tuesday, 12 August, 2-3:30 pm
Session Chair: Mashhuda Glencross, Loughborough University

Shaping Particle Simulations with Interaction Forces
Can Yukael
Kyle Maxwell
Scott Peterson
DreamWorks Animation

Progressive Streaming of Compressed 3D Graphics in a Web Browser
Guillaume Lavoué
Université de Lyon, LIRIS CNRS
Laurent Chevalier
VELVET
Florent Dupont
Université de Lyon, LIRIS CNRS

Earth in Google Maps: Rendering Trillions of Triangles in JavaScript
Janne Kontkanen
Evan Parker
Google Inc.
Hair Today

Wednesday, 13 August, 9-10:30 am
Session Chair: Cem Yuksel, The University of Utah

Measurement and Modeling of Microfacet Distribution Under Deformation
Koki Nagano
Oleg Alexander
USC Institute for Creative Technologies
Hao Li
Jernej Barbič
University of Southern California
Paul Debevec
USC Institute for Creative Technologies

A Fiber Scattering Model With Non-Separable Lobes
Eugene Deon
Weta Digital
Steve Marschner
Cornell University
Johannes Hanika
Karlsruher Institut für Technologie

Position-Based Elastic Rods
Nobuyuki Umetani
Ryan Schmidt
Jos Stam
Autodesk Research

Simulating Wind Effects on Cloth and Hair in Disney’s “Frozen”
Keith Wilson
Aleka McAdams
Hubert Leo
Maryann Simmons
Walt Disney Animation Studios

Let There Be Light

Wednesday, 13 August, 10:45 am-12:15 pm
Session Chair: Chris Wyman, University of Iowa

Real-Time Geometry Caches
Axel Gneiting
Crytek GmbH

Implementing Efficient Virtual Shadow Maps for Many Lights
Ola Olsson
Erik Sintorn
Viktor Kämpe
Markus Billetter
Ulf Assarsson
Chalmers University of Technology

Efficient Rendering With Tile Local Storage
Marius Bjorge
ARM Ltd.
Sam Martin
Geomerics Ltd.
Sandepk Kakarlapudi
Jan-Harald Fredriksen
ARM Ltd.

Dynamics

Wednesday, 13 August, 3:45-5:15 pm
Session Chair: Craig Barnes, Nokia

Elastic and Plastic Deformations With Rigid Body Dynamics
Jeffrey Budsberg
Nafees Bin Zafar
Mihai Aiden
DreamWorks Animation

Integrating FEA Physics in a Non-Linear Workflow for “Edge of Tomorrow”
Steve Avoujageli
Atushi Ikaraishi
Sony Pictures Imageworks

Art Directing Rigid-Body Dynamics as a Post Process
Fangwei Lee
DreamWorks Animation

A Position-Based Dynamics System for Animated Character Effects
Tim Steele
Nate Yellig
DreamWorks Animation
J. C. Leprevost
Kris Gossart
Numerion Software Ltd
Ron Henderson
DreamWorks Animation

Pipeline in Production

Wednesday, 13 August, 3:45-5:15 pm
Session Chair: Marc Olano, University of Maryland, Baltimore County

Tiber: Managing Shot Setup Data Complexity
Matthew Low
Greg Heflin
Matt Davies
DreamWorks Animation

A Framework for Global Visual Effects Production Pipelines
Joshua Tomlinson
Chris Johnson
Joey Tobiska
Wil Whaley
Nico Van den Bosch
Rhythm & Hues Studios

Monitoring Data Access Patterns in Large-Scale Rendering
Mark Hills
Jim Vanns
Framestore

Robust Large-Scale Rendering: The FQ Renderfarm Engine
Mark Hills
Jim Vanns
Rob Dooley
Framestore

Katana’s Geolib: Behind the Scenes
Brian Hall
Jeremy Selan
Sony Pictures Imageworks
Steve LaVietes
Pixar Animation Studios
Scattering

Thursday, 14 August, 9-10:30 am
Session Chair: Mark Elendt, Side Effects Software Inc.

A Dual-Beam 3D Searchlight BSSRDF

Eugene d’Eon
Weta Digital

A Zero-Variance-Based Sampling Scheme for Monte Carlo Subsurface Scattering

Jaroslav Křivánek
Charles University in Prague
Eugene d’Eon
Weta Digital

Adaptive Rendering Based on Weighted Local Regression

Bochang Moon
Korea Advanced Institute of Science and Technology
Nathan Carr
Adobe Systems, Incorporated
Sung-Eui Yoon
Korea Advanced Institute of Science and Technology

Path-Space Filtering

Alexander Keller
Ken Dahm
Nikolaus Binder
NVIDIA Corporation

Don’t Let Go (Gravity)

Thursday, 14 August, 9-10:30 am
Session Chair: Tim McLaughlin, Texas A&M University

“Gravity”: Volumetrics in Space

Per Karefelt
Matthias Baas
Framestore

“Gravity”: Destruction of the ISS in a Single Shot

Vincent Bonnet
Alexis Wajsbrot
Framestore

“Gravity”: Simulation as a Multi-Stage Production Tool

Sylvain Degrotte
Christopher Lawrence
Juan-Luis Sanchez
Russell Lloyd
Framestore

Creating the Earth as a Backdrop in “Gravity”

Michael Blain
Nathan Walster
Framestore

Perception

Thursday, 14 August, 3:45-5:15 pm
Session Chair: Jeremy Kenisky, Geomedia, Inc.

High-Level Saliency Prediction for Smart Game Balancing

George Koulieris
Technical University of Crete
George Drettakis
REVES/INRIA Sophia-Antipolis
Douglas Cunningham
Brandenburgische Technische Universität
Katerina Mania
Technical University of Crete

Perceptually Based Parameter Adjustments for Video-Processing Operations

Gabriel Eilertsen
Jonas Unger
Linköpings universitet

Temporally Coherent Video De-Anaglyph

Joan Sol Roo
Christian Richardt
INRIA

OpenVL: A Developer-Level Abstraction of Computer Vision

Gregor Miller
Sidney Fels
The University of British Columbia

Crowded, Furry, and in a Hurry

Thursday, 14 August, 10:45 am-12:15 pm
Session Chair: Brett Miller, DreamWorks Animation

Art-Directable Canopies in Pixar’s Vegetation Pipeline

Matt Kuruc
Nancy Tsang
Tom Nettleship
Pixar Animation Studios

Using Sparse Voxel Octrees in a Level-of-Detail Pipeline for “Rio 2”

Sean Palmer
Eric Maurer
Mark Adams
Blue Sky Studios

Packet-TRaced Disc Rendering for Baking and LoD

Harrison McKenzie Chapter
DreamWorks Animation

Sending 300 Monsters to College

Byron Bashforth
Shalin Shodhan
Jonas Jarvers
Pixar Animation Studios
SIGGRAPH Technical Papers is the premier international forum for disseminating new scholarly work in computer graphics and interactive techniques. At the conference, paper authors provide very brief overviews of their work in the Technical Papers Fast Forward session, and expanded descriptions in the technical papers sessions throughout the conference.

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**Monday, 11 August**

**Shape Collection**

**Monday, 11 August, 9-10:30 am**

Session Chair: Michael Wimmer, Technische Universität Wien

**Meta-Representation of Shape Families**

Noa Fish
Tel Aviv University

Melinos Averkiou
University College London

Oliver van Kaick
Tel Aviv University

Olga Sorkine-Hornung
ETH Zürich

Daniel Cohen-Or
Tel Aviv University

Niloy J. Mitra
University College London

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**Organizing Heterogenous Scene Collection Through Contexual Focal Points**

Kai Xu
Shenzhen Institutes of Advanced Technology, National University of Defense Technology

Rui Ma
Hao Zhang
Simon Fraser University

Chenyang Zhu
National University of Defense Technology

Ariel Shamir
The Interdisciplinary Center Herzliya

Daniel Cohen-Or
Tel Aviv University

Hui Huang
Shenzhen Institutes of Advanced Technology

**Functional Map Networks for Analyzing and Browsing Large Shape Collections**

Qi-xing Huang
Fan Wang
Guibas Leonidas
Stanford University

Papers continue ➔
Geometry and Context for Semantic Correspondences and Functionality Recognition in Man-Made 3D Shapes

Hamid Laga
University of South Australia

Michela Mortara
Michela Spagnuolo
Istituto di Matematica Applicata e Tecnologie Informatiche

Estimating Image Depth Using Shape Collections

Hao Su
Qixing Huang
Stanford University
Niloy J. Mitra
University College London
Yangyan Li
Leonidas Guibas
Stanford University

Sound & Light

Monday, 11 August, 9-10:30 am
Session Chair: Christopher Batty,
University of Waterloo

Parametric Wave Field Coding for Precomputed Sound Propagation

Nikunj Raghuvanshi
Microsoft Corporation
John Snyder
Microsoft Research

High-Order Diffraction and Diffuse Reflections For Interactive Sound Propagation in Large Environments

Dinesh Manocha
Carl Schissler
Ravish Mehra
University of North Carolina at Chapel Hill

Eigenmode Compression for Modal Sound Models

Timothy Langlois
Doug James
Steven An
Kelvin Jin
Cornell University

Inverse-Foley Animation: Synchronizing Rigid-Body Motions to Sound

Timothy Langlois
Doug James
Cornell University

Refractive Radiative Transfer Equation

Marco Ament
Universität Stuttgart, Karlsruhe Institute of Technology
Christoph Bergmann
Daniel Weiskopf
Universität Stuttgart

Faces

Monday, 11 August, 3:45-5 pm
Session Chair: Mark Pauly,
École polytechnique fédérale de Lausanne

Facial Performance Enhancement Using Dynamic Shape-Space Analysis

Amit Bermano
Disney research Zürich, ETH Zürich
Derek Bradley
Trabo Beeler
Disney Research Zürich
Fabio Zund
Disney Research Zürich, ETH Zürich
Derek Nowrouzezahra
Université de Montréal
Ilya Baran
Disney Research Zürich
Olga Sorkine-Hornung
ETH Zürich
Hanspeter Pfister
Harvard University
Robert W. Sumner
Bernd Bickel
Disney Research Zürich
Markus Gross
Disney Research Zürich, ETH Zürich

Controllable High-Fidelity Facial Performance Transfer

Feng Xu
Microsoft Research Asia
Yilong Liu
Tsinghua University
Jinxian Chai
Texas A&M University
Xin Tong
Microsoft Research Asia

Displaced Dynamic Expression Regression for Real-Time Facial Tracking and Animation

Chen Cao
Qiming Hou
Kun Zhou
Zhejiang University

Rigid Stabilization of Facial Expressions

Trabo Beeler
Derek Bradley
Disney Research Zürich

Points & Reconstruction

Monday, 11 August, 3:45-5:15 pm
Session Chair: Michael Kazhdan,
Johns Hopkins University

Point Morphology

Stéphane Calderon
Tammy Boubekeur
Télécom ParisTech

Floating Scale Surface Reconstruction

Simon Fuchs
Michael Goesele
Technische Universität Darmstadt

Continuous Projection for Fast L1 Reconstruction

Reinhold Preiner
Technische Universität Wien
Oliver Mattausch
Universität Zürich
Murat Arian
Technische Universität Darmstadt
Renato Pajarola
Universität Zürich
Michael Wimmer
Technische Universität Wien

Flower Modeling Via X-Ray Computed Tomography

Takashi Ijiri
Shin Yoshizawa
Hideo Yokota
Riken
Takeo Igarashi
The University of Tokyo

k-d Darts: Sampling by k-Dimensional Flat Searches

Mohamed Ebeida
Sandia National Laboratories
Controlling Character

Tuesday, 12 August, 9-10:30 am
Session Chair: Jessica Hodgins, Carnegie Mellon University

Generalizing Locomotion Style to New Animals With Inverse Optimal Regression
Kevin Wampler
Adobe Systems Incorporated, University of Washington
Zoran Popović
University of Washington
Jovan Popović
Adobe Systems Incorporated

Learning Bicycle Stunts
Jie Tan
Yuting Gu
Karen Liu
Greg Turk
Georgia Institute of Technology

Data-Driven Control of Flapping Flight
Eunjung Ju
Samsung Electronics Co. Ltd.
Jungdam Won
Seoul National University
Byungkuk Choi
Junyong Noh
Korea Advanced Institute of Science and Technology
Min Gyu Choi
Kwangwoon University

Online Motion Synthesis Using Sequential Monte Carlo
Perttu Hämäläinen
Sebastian Eriksson
Esa Tanskanen
Ville Kyrki
Aalto University
Jaakko Lehtinen
Aalto University, NVIDIA Research

Breathing Life Into Shape: Capturing, Modeling, and Animating 3D Human Breathing
Aggeliki Tsoli
Naureen Mahmood
Michael Black
Max-Planck-Institut für Intelligente Systeme

Non-Photorealistic Rendering
Tuesday, 12 August, 9-10:30 am
Session Chair: Adrien Bousseau, INRIA Sophia-Antipolis

Authoring and Animating Painterly Characters
Katie Bassett
Disney Research

Ink-and-Ray: Bas-Relief Meshes for Adding Global Illumination Effects to Hand-Drawn Characters
Daniel Šýkora
Czech Technical University in Prague
Ladislav Kavan
University of Pennsylvania
Martin Čadil
Brno University of Technology
Ondřej Jamršička
Czech Technical University in Prague
Alec Jacobson
ETH Zürich
Brian White
Maryann Simmons
Walt Disney Animation Studios
Olga Sorkine-Hornung
ETH Zürich

Computing Smooth Surface Contours With Accurate Topology
Pierre Bénard
Université de Bordeaux, Laboratoire Bordelais de Recherche en Informatique, Centre national de la recherche scientifique, INRIA
Aaron Hertzmann
Adobe Systems Incorporated
Michael Kass
Pixar Animation Studios

Fast Multipole Representation of Diffusion Curves and Points
Changxi Zheng
Timothy Sun
Papoq Thamjaroenporn
Columbia University

EZ-Sketching: Three-Level Optimization for Error-Tolerant Image Tracing
Qingkun Su
Hong Kong University of Science and Technology
Wing Ho Andy Li
City University of Hong Kong
Jue Wang
Adobe Research
Hongbo Fu
City University Of Hong Kong

Sampling & Spectra
Tuesday, 12 August, 9-10:30 am
Session Chair: Steve Marschner, Cornell University

A Constructive Theory of Sampling for Image Synthesis Using Reproducing Kernel Bases
Christian Lessig
University of Toronto
Mathieu Desbrun
California Institute of Technology
Eugene Fiume
University of Toronto

Fast Tile-Based Adaptive Sampling With User-Specified Fourier Spectra
Florent Wachtel
Adrien Pillebout
Université Claude Bernard Lyon 1
David Coeurjolly
CNRS/LIRIS
Katherine Breeden
Stanford University
 Gurpreet Singh
Gael Cathelin
Université Claude Bernard Lyon 1
Fernando de Goes
Mathieu Desbrun
California Institute of Technology
Victor Ostromoukhov
Université Claude Bernard Lyon 1, CNRS/LIRIS

A Local Frequency Analysis of Light Scattering and Absorption
Laurent Belcour
Université de Montréal
Kavita Bala
Cornell University
Cyril Soler
INRIA Rhône-Alpes

Boosting Monte-Carlo Rendering by Ray Histogram Fusion
Mauricio Delbracio
École normale supérieure de Cachan, Duke University
Pablo Musé
Universidad de la República
Antoni Buades
École normale supérieure de Cachan, Universitat de les Illes Balears
Julien Chauvier
Nicholas Phelps
e-on software, inc.
Jean-Michel Morel
École normale supérieure de Cachan

Papers continue →
Factored Axis-Aligned Filtering for Rendering Multiple Distribution Effects
Soham Uday Mehta
JiaXian Yao
Pavlo Ramamoorthi
University of California, Berkeley
Frédo Durand
MIT CSAIL

Displays
Tuesday, 12 August, 10:45 am-12:15 pm
Session Chair: Hendrik Lensch, Eberhard Karls Universität Tübingen

A Compressive Light-Field Projection System
Matthew Hirsch
Gordon Wetzstein
Ramesh Raskar
MIT Media Lab

Correcting Visual Aberrations With Computational Light-Field Displays
Fu-Chung Huang
University of California, Berkeley
Gordon Wetzstein
MIT Media Lab
Brian Barsky
University of California, Berkeley
Ramesh Raskar
MIT Media Lab

Cascaded Displays: Spatiotemporal Super-Resolution Using Offset Pixel Layers
Felix Heide
Douglas Lanman
Dikpal Reddy
Jan Kautz
Kari Pulli
David Luebke
NVIDIA Research

A Reflectance Display
Daniel Glasner
Todd Zickler
Harvard School of Engineering and Applied Sciences
Anat Levin
The Weizmann Institute of Science

Focus 3D: Compressive Accommodation Display
Andrew Maimone
University of North Carolina at Chapel Hill
Gordon Wetzstein
Matthew Hirsch
MIT Media Lab
Douglas Lanman
NVIDIA Research
Ramesh Raskar
MIT Media Lab
Henry Fuchs
University of North Carolina at Chapel Hill

Fabrication-Oriented Design
Tuesday, 12 August, 10:45 am-12:15 pm
Session Chair: Wilmot Li, Adobe Research

Design and Fabrication by Example
Adriana Schulz
MIT CSAIL
Ariel Shamir
Interdisciplinary Center Herzliya
David Levin
Pitchaya Sitthi-Amorn
Wojciech Matusik
MIT CSAIL

Designing Inflatable Structures
Melina Skouaras
ETH Zürich
Bernhard Thomaszewski
Peter Kaufmann
Disney Research Zürich
Akash Garg
Columbia University
Bernd Bickel
Disney Research Zürich
Eitan Grinspun
Columbia University
Markus Gross
ETH Zürich, Disney Research Zürich

Computational Design of Linkage-Based Characters
Bernhard Thomaszewski
Stelian Coros
Disney Research Zürich
Damien Gauge
Vittorio Megaro
ETH Zürich
Eitan Grinspun
Columbia University
Markus Gross
Disney Research Zürich, ETH Zürich

Pteromys: Interactive Design and Optimization of Free-Formed Free-Flight Model Airplanes
Nobuyuki Umetani
The University of Tokyo, Autodesk Research
Yuki Koyama
The University of Tokyo
Ryan Schmidt
Autodesk Research
Takeo Igarashi
The University of Tokyo

Wire Mesh Design
Akash Garg
Columbia University
Andrew Sageman-Furnas
Georg-August-Universität Göttingen
Baolin Deng
École polytechnique fédérale de Lausanne
Yonghao Yue
Eitan Grinspun
Columbia University
Mark Pauly
École polytechnique fédérale de Lausanne
Max Wardetzky
Georg-August-Universität Göttingen

Geometry Processing
Tuesday, 12 August, 10:45 am-12:15 pm
Session Chair: Mario Botsch, Universität Bielefeld

Earth Mover’s Distances on Discrete Surfaces
Justin Solomon
Ralf Rustamov
Leonidas Guibas
Stanford University
Adrian Butscher
Max Planck Center for Visual Computing and Communication

Controlling Singular Values With Semidefinite Programming
Shahar Kovalsky
Noam Aigerman
Ronen Basri
Yaron Lipman
Weizmann Institute of Science

Lifted Bijections for Low-Distortion Surface Mappings
Noam Aigerman
Roi Poranne
Yaron Lipman
The Weizmann Institute of Science

Parallel Chen-Han (PCH) Algorithm for Discrete Geodesics
Xiang Ying
Shi-Qing Xin
Ying He
Nanyang Technological University

Form-Finding with Polyhedral Meshes Made Simple
Chengcheng Tang
Xiang Sun
King Abdullah University of Science and Technology
Alexandra Gomes
Instituto Superior Técnico
Johannes Wallner
Technische Universität Graz
Helmut Pottmann
King Abdullah University of Science and Technology, Technische Universität Wien
Surfaces, Deformation, and Correspondence

Boxelization: Folding 3D Objects Into Boxes
Yahan Zhou
University of Massachusetts Amherst
Shinjiro Sueda
Disney Research Boston
Wojciech Matusik
MIT CSAIL
Ariel Shamir
Interdisciplinary Center Herzliya

The Connect-the-Dots Family of Puzzles: Design and Automatic Generation
Maarten Löffler
Mira Kaiser
Tim van Kapel
Gerwin Klappe
Marc van Kreveld
Universiteit Utrecht
Frank Staals
Universiteit Utrecht

Self-Refining Games Using Player Analytics
Matt Stanton
Ben Humberston
Brandon Kase
Carnegie Mellon University
James O’Brien
University of California, Berkeley
Kayvon Fatahalian
Adrien Treuille
Carnegie Mellon University

High-Contrast Computational Caustic Design
Yuliy Schwartzburg
Romain Testuz
Mark Pauly
Andrea Tagliasacchi
École polytechnique fédérale de Lausanne

Poisson-Based Continuous-Surface Generation for Goal-Based Caustics
Yonghao Yue
Columbia University, Japan Society for the Promotion of Science
Kei Iwasaki
Wakayama University, UEI Research
Bing-Yu Chen
National Taiwan University, UEI Research
Yoshinori Dobashi
Hokkaido University, UEI Research
Tomoyuki Nishita
UEI Research, Hiroshima Shudo University

Locally Injective Parametrization With Arbitrary Fixed Boundaries
Ofir Weber
Bar Ilan University
Denis Zorin
New York University

Provably Good Planar Mappings
Roi Poranne
Yaron Lipman
Weizmann Institute of Science

Context-Based Coherent Surface Completion
Gur Harary
Ayelet Tal
Technion – Israel Institute of Technology
Eitan Grinspun
Columbia University

Diffusion Pruning for Rapidly and Robustly Selecting Global Correspondences Using Local Isometry
Gary Kwok-Leung Tam
Swansea University
Ralph R. Martin
Paul L. Rosin
Yukun Lai
Cardiff University

Feature Matching With Bounded Distortion
Yaron Lipman
Stav Yagev
Roi Poranne
Weizmann Institute of Science
David W. Jacobs
University of Maryland
Ronen Basri
Weizmann Institute of Science

Video Applications

VideoSnapping: Interactive Synchronization of Multiple Videos
Oliver Wang
Christopher Schroers
Henning Zimmer
Disney Research Zürich
Markus Gross
Disney Research Zürich, ETH Zürich
Alexander Sorkine-Hornung
Disney Research Zürich

First-Person Hyper-Lapse Videos
Johannes Kopf
Michael Cohen
Richard Szeliski
Microsoft Research

The Visual Microphone: Passive Recovery of Sound from Video
Myers Davis
MIT CSAIL
Michael Rubinstein
Microsoft Research, MIT CSAIL
Neal Wadhwa
MIT CSAIL
Gautham Mysore
Adobe Research
Frédo Durand
William T. Freeman
MIT CSAIL

Intrinsic Video and Applications
Genzhi Ye
Tsinghua University
Elena Garces
Universidad de Zaragoza
Yebin Liu
Qionghai Dai
Tsinghua University
Diego Gutierrez
Universidad de Zaragoza

Automatic Editing of Footage from Multiple Social Cameras
Ido Arev
The Interdisciplinary Center Herzliya, Disney Research Pittsburgh
Hyun Soo Park
Carnegie Mellon University
Yaser Shekh
Jessica Hodgins
Carnegie Mellon University, Disney Research Pittsburgh
Ariel Shamir
The Interdisciplinary Center Herzliya, Disney Research Pittsburgh
Animating Characters

Tuesday, 12 August, 3:45-5:15 pm
Session Chair: Ladislav Kavan, University of Pennsylvania

Tangible and Modular Input Device for Character Articulation
Alec Jacobson
Daniele Panazzolo
Oliver Glauser
ETH Zürich

Cedric Pradalier
GeorgiaTech Lorraine

Otmar Hilliges
ETH Zürich

Olga Sorkine-Hornung
ETH Zürich

Real-Time Continuous Pose Recovery of Human Hands Using Convolutional Networks
Jonathan Tompson
New York University

Interactive Manipulation of Large-Scale Crowd Animation
Jongmin Kim
Seoul National University
Yeongho Seol
Weta Digital
Taesoo Kwon
Hanyang University
Jehee Lee
Seoul National University

Robust and Accurate Skeletal Rigging From Mesh Sequences
Binh Le
Zhigang Deng
University of Houston

Interactive Generalized Penetration Depth Computation for Rigid and Articulated Models Using Object Norm
Tang Min
Young Kim
Ewha Womans University

Computational Sensing & Display

Tuesday, 12 August, 3:45-5:15 pm
Session Chair: Gordon Wetzstein, MIT Media Lab

Pixie Dust: Graphics Generated by Levitated and Animated Objects in a Computational Acoustic-Potential Field
Yoichi Ochihi
The University of Tokyo

Tamaki Hoshikawa
Nagoya Institute of Technology

Learning to Be a Depth Camera for Close-Range Human Capture and Interaction
Sean Ryan Fanello
Istituto Italiano di Tecnologia
Cem Keskin
Shahram Izadi
Pushmeet Kohli
Jamie Shotton
Antonio Criminisi
David Kim
David Sweeney
Microsoft Research Cambridge
Sing Bing Kang
Microsoft Research Redmond

Temporal Frequency Probing for 5D Analysis of Global Light Transport
Matthew O’Toole
University of Toronto
Felix Heide
Lei Xiao
The University of British Columbia
Matthias B. Henn
Friedrich-Wilhelms-Universität Bonn
Wolfgang Heidrich
The University of British Columbia
Kiriakos N. Kutulakos
University of Toronto

Compressive Epsilon Photography for Post-Capture Control in Digital Imaging
Atsushi Ito
Sony Corporation
Sall Tame
Kazuhiko Mitra
Rice University
Aswin Sankaranarayanan
Carnegie Mellon University
Ashok Veeraraghavan
Rice University

Pinlight Displays: Wide Field of View Augmented-Reality Eyeglasses Using Defocused Point Light Sources
Andrew Maimone
University of North Carolina at Chapel Hill
Douglas Lanman
NVIDIA Research
Kishore Ratnavale
Kurtis Keller
University of North Carolina at Chapel Hill
David Luebke
NVIDIA Research
Henry Fuchs
University of North Carolina at Chapel Hill

Learning a Manifold of Fonts
Neil Campbell
Jan Kautz
University College London

Exploratory Font Selection Using Crowd-Sourced Attributes
Peter O'Donovan
Janis Libeks
University of Toronto
Asseem Agarwala
Aaron Hertzmann
Adobe Systems Incorporated

A Similarity Measure for Illustration Style
Elena Garces
Universidad de Zaragoza
Asseem Agarwala
Adobe Systems Incorporated
Diego Gutierrez
Universidad de Zaragoza
Aaron Hertzmann
Adobe Systems Incorporated

Look Over Here: Attention-Directing Composition of Manga Elements
Ying Cao
Rynson Lau
Antoni Chan
City University Of Hong Kong
Fabrication

Wednesday, 13 August, 9-10:30 am
Session Chair: Bernhard Thomaszewski,
Disney Research Zürich

An Asymptotic Numerical Method for Inverse Elastic Shape Design
Xiang Chen
Zhejiang University
Changxi Zheng
Columbia University
Weiwei Xu
Hangzhou Normal University
Kun Zhou
Zhejiang University

Spin-It: Optimizing Moment of Inertia for Spinnable Objects
Moritz Bächer
Disney Research Zürich
Emily Whiting
ETH Zürich
Bernd Bickel
Disney Research Zürich
Olga Sorkine-Hornung
ETH Zürich

Build to Last: Strength-to-Weight 3D Printed Objects
Lin Lu
Shandong University
Andrei Sharf
Ben-Gurion University
Haisen Zhao
Yuan We
Qingnan Fan
Xuelin Chen
Shandong University
Yann Savoye
Ben-Gurion University
Changhe Tu
Shandong University
Daniel Cohen-Or
Tel Aviv University
Baoquan Chen
Shandong University

Bridging the Gap: Automated Steady Scaffolding for 3D Printing
Jérémy Dumas
Université de Lorraine, INRIA
Jean Hergel
Sylvain Lefèvre
INRIA, Université de Lorraine

Computational Light Routing: 3D Printed Optical Fibers for Sensing and Display
Thiago Pereira
Princeton University
Wojciech Matusik
MIT CSAIL
Szymon Rusinkiewicz
Princeton University

Light Transport

Wednesday, 13 August
10:45 am-12:15 pm
Session Chair: Jaakko Lehtinen, Aalto University/ NVIDIA Corporation

Multiplexed Metropolis Light Transport
Toshiya Hachisuka
Aarhus Universitet
Anton Kaplanyan
Carsten Dachsbacher
Karlsruhe Institute of Technology

Online Learning of Parametric Mixture Models for Light-Transport Simulation
Jiří Vorba
ČD Georges
Martin Šik
Charles University in Prague
Tobias Ritschel
Max-Planck-Institut für Informatik
Jaroslav Krivánek
Charles University in Prague

The Natural Constraint Representation of the Path Space for Efficient Light-Transport Simulation
Anton Kaplanyan
Johannes Hanika
Carsten Dachsbacher
Karlsruhe Institute of Technology

Unifying Points, Beams, and Paths in Volumetric Light Transport Simulation
Jaroslav Krivánek
Charles University in Prague
Iliyan Georgiev
Light Transportation Ltd.
Toshiya Hachisuka
Aarhus Universitet
Petr Vevoda
Martin Šik
Charles University in Prague
Derek Nowrouzezahrai
Université de Montréal
Wojciech Jarosz
Disney Research Zürich

High-Order Similarity Relations in Radiative Transfer
Shuang Zhao
Cornell University
Ravi Ramamoorthi
University of California, Berkeley
Kavita Bala
Cornell University
Subspace & Spacetime

Wednesday, 13 August
10:45 am-12:15 pm
Session Chair: Jernej Barbič, University of Southern California

Subspace Clothing Simulation Using Adaptive Bases
Fabian Hahn
ETH Zürich, Disney Research Zürich
Bernhard Thomaszewski
Stelian Coros
Robert W. Sumner
Disney Research Zürich
Forrester Cole
Mark Meyer
Tony DeRose
Pixar Animation Studios
Markus Gross
ETH Zürich, Disney Research Zürich

Simulation Articulated Subspace Self-Contact
Yun Teng
Theodore Kim
University of California, Santa Barbara
Miguel Otaduy
Universidad Rey Juan Carlos de Madrid

Sensitivity-Optimized Rigging for Example-Based Real-Time Clothing Synthesis
Weiwei Xu
Hangzhou Normal University
Nobuyuki Umentani
Autodesk Research, The University of Tokyo
Qianwen Chao
Zhejiang University
Jie Mao
Google, Inc.
Xiaogang Jin
Zhejiang University
Xin Tong
Microsoft Research Asia

Space-Time Editing of Elastic Motion Through Material Optimization and Reduction
Siwang Li
Jin Huang
Zhejiang University
Fernando de Goes
California Institute of Technology
Xiaogang Jin
Hujun Bao
Zhejiang University
Mathieu Desbrun
California Institute of Technology

Animating Deformable Objects Using Sparse Space-Time Constraints
Christian Schulz
Max-Planck-Institut für Informatik
Christoph von Tycowicz
Freie Universität Berlin
Hans-Peter Seidel
Klaus Hildebrandt
Max-Planck-Institut für Informatik

Mesh-Based Simulation
Wednesday, 13 August, 2-3:30 pm
Session Chair: Joseph Teran, University of California, Los Angeles

Animation of Deformable Bodies with Quadratic Bézier Finite Elements
Adam Bargteil
Eilane Cohen
University of Utah

Adaptive Tearing and Cracking of Thin Sheets
Tobias Pfaff
Rahul Narain
Juan Miguel de Joya
James O‘Brien
University of California, Berkeley

Codimensional Surface Tension Flow on Simplicial Complexes
Bo Zhu
Ed Quigley
Matthew Cong
Justin Solomon
Ronald Fedkiw
Stanford University

Multimaterial Mesh-Based Surface Tracking
Fang Da
Columbia University
Christopher Batty
University of Waterloo
Eitan Grinspun
Columbia University

Physics-Inspired Adaptive Fracture Refinement
Zhili Chen
Miaojun Yao
Renguang Feng
Huamin Wang
The Ohio State University

Reflectance: Modeling, Capturing, Renderings
Wednesday, 13 August, 2-3:30 pm
Session Chair: Wojciech Matusik, MIT CSAIL

genBRDF: Discovering New Analytic BRDFs With Genetic Programming
Jason Lawrence
University of Virginia

Pieter Peers
College of William & Mary
Adam Brady
Westley Weimer
University of Virginia

Discrete Stochastic Microfacet Models
Wenzel Jakob
ETH Zürich
Steve Marschner
Cornell University
Ling-Qi Yan
Milos Hasan
Ravi Ramamoorthi
University of California, Berkeley
Jason Lawrence
University of Virginia

Rendering Glints on High-Resolution Normal-Mapped Specular Surfaces
Ling-Qi Yan
University of California, Berkeley
Milos Hasan
Autodesk, Inc.
Wenzel Jakob
ETH Zürich
Jason Lawrence
University of Virginia
Steve Marschner
Cornell University
Ravi Ramamoorthi
University of California, Berkeley

Reflectance Scanning: Estimating Shading Frame and BRDF with Generalized Linear Light Sources
Guojun Chen
Tianjin University
Yue Dong
Microsoft Research Asia
Pieter Peers
College of William & Mary
Jawaw Zhang
Tianjin University
Xin Tong
Microsoft Research Asia

A Comprehensive Framework for Rendering Layered Materials
Wenzel Jakob
ETH Zürich
Eugene D’Eon
Weta Digital
Otto Jakob
Atelier Otto Jakob
Steve Marschner
Cornell University
### Shape Analysis

**Wednesday, 13 August, 2:30-3:30 pm**  
Session Chair: Robert Sumner, Disney Research Zürich & ETH Zürich

**Near-Regular Structure Extraction Using Linear Programming**  
Qi-xing Huang  
Guibas Leonidas  
Stanford University  
Niloy Mitra  
University College London

**Relating Shapes Via Geometric Symmetries and Regularities**  
Art Tews  
Max-Planck-Institut für Informatik  
Qi-Xing Huang  
Stanford University  
Michael Wand  
Universiteit Utrecht  
Hans-Peter Seidel  
Max-Planck-Institut für Informatik  
Leonidas Guibas  
Stanford University

**Shape2Pose: Human-Centric Shape Analysis**  
Vladimir Kim  
Stanford University  
Siddhartha Chaudhuri  
Princeton University  
Leonidas Guibas  
Stanford University  
Thomas Funkhouser  
Princeton University

**Mesh Saliency Via Spectral Processing**  
Ran Song  
University of Lincoln  
Yonghui Liu  
Aberystwyth University  
Ralph Martin  
Paul Rosin  
Cardiff University

**Inverse Procedural Modeling of Façade Layouts**  
Peter Wonka  
Arizona State University  
Fuzhang Wu  
Chinese Academy of Sciences  
Dongming Yan  
King Abdullah University of Science and Technology  
Weiming Dong  
Xiaopeng Zhang  
Chinese Academy of Sciences

### Hair & Collisions

**Wednesday, 13 August, 3:45-5:15 pm**  
Session Chair: Florence Bertails-Descoubes, INRIA Rhône-Alpes

**Defending Continuous Collision Detection Against Errors**  
Huamin Wang  
The Ohio State University

**Adaptive Nonlinearity for Collisions in Complex Rod Assemblies**  
Breannan Smith  
Columbia University  
Danny Kaufman  
Adobe Systems Incorporated  
Rasmus Tamstorf  
Walt Disney Animation Studios  
Eitan Grinspun  
Columbia University  
Jean-Marie Aubry  
Weta Digital

**A Reduced Model for Interactive Hairs**  
Menglei Chai  
Zhejiang University  
Changxi Zheng  
Columbia University  
Kun Zhou  
Zhejiang University

**Capturing and Stylizing Hair for 3D Fabrication**  
Jose Ignacio Echevarria  
Universidad de Zaragoza  
Derek Bradley  
Disney Research Zürich  
Diego Gutierrez  
Universidad de Zaragoza  
Thabo Beeler  
Disney Research Zürich

**Robust Hair Capture Using Simulated Examples**  
Liwen Hu  
Chongyang Ma  
University of Southern California  
Linjie Luo  
Adobe Research  
Hao Li  
University of Southern California

### Image Tricks

**Wednesday, 13 August, 3:45-5:15 pm**  
Session Chair: Aseem Agarwala, Adobe Systems, Inc.

**Automating Image Morphing Using Structural Similarity on a Halfway Domain**  
Jing Liao  
Hong Kong University of Science and Technology

**3D Object Manipulation in a Single Photograph Using Stock 3D Models**  
Natasha Kholgade  
Tomas Simon  
Carnegie Mellon University  
Alexei Efros  
University of California, Berkeley  
Yaser Sheikh  
Carnegie Mellon University

**Bilateral Texture Filtering**  
Hojin Cho  
Hyunjoon Lee  
Pohang University of Science and Technology  
Henry Kang  
University of Missouri-St. Louis  
Seungyong Lee  
Pohang University of Science and Technology

**Fast Local Laplacian Filters: Theory and Applications**  
Mathieu Aubry  
INRIA  
Sylvain Paris  
Adobe Systems Incorporated  
Sam Hasinoff  
Google Inc.  
Jan Kautz  
University College London  
Frédo Durand  
MIT CSAIL

**Image Completion Using Planar Structure Guidance**  
Jia-Bin Huang  
University of Illinois at Urbana-Champaign  
Sing Bing Kang  
Microsoft Research  
Narendra Ahuja  
University Of Illinois, Urbana-Champaign  
Johannes Kopf  
Microsoft Research
Interactive Modeling

**Wednesday, 13 August, 3:45-5:15 pm**
Session Chair: Tamy Boubekeur, Télécom ParisTech

**PushPull++**
Markus Lipp
Esri
Peter Wonka
King Abdullah University of Science and Technology
Pascal Müller
Esri

**Flow-Complex-Based Shape Reconstruction From 3D Curve Sketches**
Bardia Sadri
Side Effects Software
Karan Singh
University Of Toronto

**True2Form: 3D Curve Networks From 2D Sketches via Selective Regularization**
Baoxuan Xu
William Chang
Alia Sheffer
The University of British Columbia
Karan Singh
University of Toronto
Adrien Bousseau
INRIA Sophia Antipolis
James McCrae
University of Toronto

**Interactive Shape Modeling Using a Skeleton-Mesh Co-Representation**
Jakob Andreas Bærentzen
Danmarks Tekniske Universitet
Rinat Abdrashitov
Karan Singh
University of Toronto

**Vector Graphics Complexes**
Boris Dalstein
The University of British Columbia
Remi Ronfard
INRIA Rhones-Alpes
Michiel van de Panne
The University of British Columbia

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Thursday, 14 August

**Fields on Surfaces**

**Thursday, 14 August, 9-10:30 am**
Session Chair: Miri Ben-Chen, Technion - Israel Institute of Technology

**Robust Polylines Tracing for N-symmetry Direction Field on Triangulated Surfaces**
Nicolas Ray
INRIA
Dmitry Sokolov
Université de Lorraine

**Frame Fields: Anisotropic and Non-Orthogonal Cross Fields**
Daniele Panazzolo
ETH Zürich
Enrico Puppo
Università degli Studi di Genova
Marco Tarini
Università degli Studi dell’Insubria, Varese; Istituto di Scienza e Tecnologie dell’Informazione
Olga Sorkine-Hornung
ETH Zürich

**Robust Field-Aligned Global Parametrization**
Ashish Myles
Google Inc.
Nico Pietroni
Istituto di Scienza e Tecnologie dell’Informazione
Denis Zorin
New York University

**Exploring Quadrangulations**
Chi-Han Peng
Arizona State University
Michael Barton
Caigui Jiang
King Abdullah University of Science And Technology
Peter Wonka
Arizona State University

**Weighted Triangulations for Geometry Processing**
Fernando de Goes
California Institute of Technology
Pooran Memari
Laboratoire Traitement et Communication de l’Information
Patrick Mullen
Mathieu Desbrun
California Institute of Technology

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**Fluids**

**Thursday, 14 August, 9-10:30 am**
Session Chair: Barbara Solenthaler, ETH Zürich

**Detailed Water With Coarse Grids: Combining Surface Meshes and Adaptive Discontinuous Galerkin**
Essex Edwards
Robert Bridson
The University of British Columbia

**Blending Liquids**
Karthik Raveendra
Georgia Institute of Technology
Chris Wojtan
Institute of Science and Technology Austria
Nils Thuerey
Technische Universität München
Greg Turk
Georgia Institute of Technology

**Augmented MPM for Phase-Change and Varied Materials**
Alexey Stomakhin
Walt Disney Animation Studios
Craig Schroeder
Chenfanfu Jiang
University of California, Los Angeles
Lawrence Chai
Walt Disney Animation Studios
Joseph Teran
University of California, Los Angeles
Andrew Selle
Walt Disney Animation Studios

**From Capture to Simulation - Connecting Forward and Inverse Problems in Fluids**
James Gregson
The University of British Columbia
Ivo Ihrke
INRIA Bordeaux
Wolfgang Heidrich
The University of British Columbia

**Smoke Rings From Smoke**
Steffen Weißmann
Ulrich Pinkall
Technische Universität Berlin
Peter Schröder
California Institute of Technology
Hardware Systems

Thursday, 14 August, 9-10:30 am
Session Chair: Diego Nehab, Instituto de Matemática Pura e Aplicada

AMFS: Adaptive Multi-Frequency Shading for Future Graphics Processors
Petrik Clarberg
Robert Toth
Jon Hasselgren
Jim Nilsson
Intel Corporation
Tomas Akenine-Möller
Intel Corporation, Lunds universitet

Changing Your Perception
Thursday, 14 August, 10:45 am-12:15 pm
Session Chair: Yaser Sheikh, Carnegie Mellon University

Modeling and Optimizing Eye Vergence Response to Stereoscopic Cuts
Krzysztof Templin
MIT CSAIL, Max-Planck-Institut für Informatik
Piotr Didyk
MIT CSAIL
Karol Myszkowski
Max-Planck-Institut für Informatik
Mohamed M. Hefeeda
Qatar Computing Research Institute
Hans-Peter Seidel
Max-Planck-Institut für Informatik
Wojciech Matusik
MIT CSAIL

Simulating and Compensating Changes in Appearance Between Day and Night Vision
Robert Wanat
Rafal Mantiuk
Bangor University

Progressive Light Transport Simulation on the GPU: Survey and Improvements
Tomas Davidovic
Universität des Saarlandes
Jaroslav Krivanek
Charles University in Prague
Miloš Hasan
Adobe Systems Incorporated
Philipp Slusallek
Universität des Saarlandes, Deutsches Forschungszentrum für Künstliche Intelligenz

Changing Your Perception
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Mohamed M. Hefeeda
Qatar Computing Research Institute
Hans-Peter Seidel
Max-Planck-Institut für Informatik
Wojciech Matusik
MIT CSAIL

How Do People Edit Light Fields?
Adrian Jarabo
Belen Masia
Universidad de Zaragoza
Adrien Bousseau
REVES/INRIA Sophia-Antipolis
Fabio Pellacini
Sapienza - Università di Roma
Diego Gutierrez
Universidad de Zaragoza

Dynamic Ray Stream Traversal
Rasmus Barringer
Lunds universitet
Tomas Akenine-Möller
Lunds universitet, Intel Corporation

Fast Rendering
Thursday, 14 August
10:45 am-12:15 pm
Session Chair: Elmar Eisemann, Technische Universität Delft

Compact Precomputed Voxelized Shadows
Erik Sintorn
Viktor Kämpe
Ola Olsson
Ulf Assarsson
Chalmers University of Technology

Instant Convolution Shadows for Volumetric Detail Mapping
Daniel Patel
Veronika Solteszova
Christian Michelens Research
Jan Martin Nordbotten
Stefan Bruckner
Universitetet i Bergen

RayCore: A Ray-Tracing Hardware Architecture for Mobile Devices
Jae-Ho Nah
Hyuck-Joo Kwon
Dong-Seok Kim
Sejong University
Cheol-Ho Jeong
Siliconarts, Inc.
Jinhong Park
LG Electronics
Tack-Don Han
Yonsei University
Dinesh Manocha
University of North Carolina at Chapel Hill
Woo-Chan Park
Sejong University

Style Transfer for Headshot Portraits
YiChang Shih
MIT CSAIL
Sylvain Paris
Adobe Research
Connelly Barnes
University of Virginia
William Freeman
Frédo Durand
MIT CSAIL

Embree - A Ray Tracing Kernel Framework for Efficient CPU Ray Tracing
Ingo Wald
Sven Woop
Carsten Benthin
Greg Johnson
Intel Corporation
Manfred Ernst
Intel Corporation (now Google, Inc.)

Transmit Attributes for High-Level Understanding and Editing of Outdoor Scenes
Pierre-Yves Latfont
ZHILE Ren
Xiaofeng Tao
Chao Qian
James Hays
Brown University

V4: Compiling High-Level Image-Processing Code into Hardware Pipelines
James Hegarty
Zachary DeVito
John Brunhaver
Stanford University
Jonathan Ragan-Kelley
MIT CSAIL
Steven Bell
Artem Vasilyev
Noy Cohen
Mark Horowitz
Pat Hanrahan
Stanford University

Changing Your Perception
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Krzysztof Templin
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Progressive Light Transport Simulation on the GPU: Survey and Improvements
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Philipp Slusallek
Universität des Saarlandes, Deutsches Forschungszentrum für Künstliche Intelligenz

A Practical Algorithm for Rendering Inter-Reflections With All-Frequency BRDFs
Kun Xu
Yan-Pei Cao
Li-Qian Ma
Tsinghua University
Zhao Dong
Cornell University
Rui Wang
University of Massachusetts
Shi-Min Hu
Tsinghua University

Changing Your Perception
Thursday, 14 August
10:45 am-12:15 pm
Session Chair: Yaser Sheikh, Carnegie Mellon University

Modeling and Optimizing Eye Vergence Response to Stereoscopic Cuts
Krzysztof Templin
MIT CSAIL, Max-Planck-Institut für Informatik
Piotr Didyk
MIT CSAIL
Karol Myszkowski
Max-Planck-Institut für Informatik
Mohamed M. Hefeeda
Qatar Computing Research Institute
Hans-Peter Seidel
Max-Planck-Institut für Informatik
Wojciech Matusik
MIT CSAIL

How Do People Edit Light Fields?
Adrian Jarabo
Belen Masia
Universidad de Zaragoza
Adrien Bousseau
REVES/INRIA Sophia-Antipolis
Fabio Pellacini
Sapienza - Università di Roma
Diego Gutierrez
Universidad de Zaragoza

Dynamic Ray Stream Traversal
Rasmus Barringer
Lunds universitet
Tomas Akenine-Möller
Lunds universitet, Intel Corporation

Fast Rendering
Thursday, 14 August
10:45 am-12:15 pm
Session Chair: Elmar Eisemann, Technische Universität Delft

Compact Precomputed Voxelized Shadows
Erik Sintorn
Viktor Kämpe
Ola Olsson
Ulf Assarsson
Chalmers University of Technology

Instant Convolution Shadows for Volumetric Detail Mapping
Daniel Patel
Veronika Solteszova
Christian Michelens Research
Jan Martin Nordbotten
Stefan Bruckner
Universitetet i Bergen

RayCore: A Ray-Tracing Hardware Architecture for Mobile Devices
Jae-Ho Nah
Hyuck-Joo Kwon
Dong-Seok Kim
Sejong University
Cheol-Ho Jeong
Siliconarts, Inc.
Jinhong Park
LG Electronics
Tack-Don Han
Yonsei University
Dinesh Manocha
University of North Carolina at Chapel Hill
Woo-Chan Park
Sejong University

Style Transfer for Headshot Portraits
YiChang Shih
MIT CSAIL
Sylvain Paris
Adobe Research
Connelly Barnes
University of Virginia
William Freeman
Frédo Durand
MIT CSAIL

Embree - A Ray Tracing Kernel Framework for Efficient CPU Ray Tracing
Ingo Wald
Sven Woop
Carsten Benthin
Greg Johnson
Intel Corporation
Manfred Ernst
Intel Corporation (now Google, Inc.)

Transmit Attributes for High-Level Understanding and Editing of Outdoor Scenes
Pierre-Yves Latfont
ZHILE Ren
Xiaofeng Tao
Chao Qian
James Hays
Brown University

V4: Compiling High-Level Image-Processing Code into Hardware Pipelines
James Hegarty
Zachary DeVito
John Brunhaver
Stanford University
Jonathan Ragan-Kelley
MIT CSAIL
Steven Bell
Artem Vasilyev
Noy Cohen
Mark Horowitz
Pat Hanrahan
Stanford University
**Stretching & Flowing**

**Thursday, 14 August, 10:45 am-12:15 pm**  
Session Chair: Huamin Wang, The Ohio State University

**Active Volumetric Musculoskeletal Systems**

Ye Fan  
Joshua Litven  
Dinesh K. Pai  
The University of British Columbia

**Deformation Embedded for Point-Based Elastoplastic Simulation**

Ben Jones  
University of Utah  
Stephen Ward  
DreamWorks Animation  
Ashok Jallepalli  
Microsoft Corporation  
Joseph Perienia  
Sony PlayStation  
Adam Bargteil  
University of Utah

**Exponential Integrators for Stiff Elastodynamic Problems**

Dominik Michels  
California Institute of Technology  
Gerrit Sobottka  
Andreas Weber  
Rheinische Friedrich-Wilhelms-Universität Bonn

**Unified Particle Physics for Real-Time Applications**

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

**Projective Dynamics: Fusing Constraint Projections for Fast Simulation**

Sofien Bouaziz  
École polytechnique fédérale de Lausanne  
Sebastian Martin  
VM Research  
Tiantian Liu  
Ladislav Kavan  
University of Pennsylvania  
Mark Pauly  
École polytechnique fédérale de Lausanne

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**Depth for All Occasions**

**Thursday, 14 August, 2-3:30 pm**  
Session Chair: Johannes Kopf, Microsoft Research

**Color Map Optimization for 3D Reconstruction With Consumer Depth Cameras**

Qian-Yi Zhou  
Stanford University  
Vladlen Koltun  
Adobe Research

**Real-Time Non-Rigid Reconstruction Using an RGB-D Camera**

Michael Zollhöfer  
Friedrich-Alexander-Universität Erlangen-Nürnberg  
Matthias Nießner  
Stanford University  
Shahram Izadi  
Christoph Rehmann  
Christopher Zach  
Microsoft Research Cambridge  
Matthew Fisher  
Stanford University  
Chenglei Wu  
Max-Planck-Institut für Informatik  
Andrew Fitzgibbon  
Microsoft Research Cambridge  
Charles Loop  
Microsoft Research  
Christian Theobalt  
Max-Planck-Institut für Informatik  
Marc Stamminger  
Friedrich-Alexander-Universität Erlangen-Nürnberg

**Proactive 3D Scanning of Inaccessible Parts**

Feilong Yan  
Shenzhen VisuCA Key Lab, Simon Fraser University  
Andrej Sharf  
Ben-Gurion University  
Wenzhen Lin  
Hui Huang  
Shenzhen VisuCA Key Lab, Simon Fraser University  
Baoquan Chen  
Shandong University

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**Coupled Structure-From-Motion and 3D Symmetry Detection for Urban Façades**

Duygu Ceylan  
École polytechnique fédérale de Lausanne  
Niloy J. Mitra  
University College London  
Youyi Zheng  
Yale University  
Mark Pauly  
École polytechnique fédérale de Lausanne

**Painting-to-3D Model Alignment via Discriminative Visual Elements**

Mathieu Aubry  
INRIA, Technische Universität München  
Bryan Russell  
Intel Corporation  
Josef Sivic  
INRIA-ENS
Surfaces, Shapes, and Maps

Thursday, 14 August, 2-3:30 pm
Session Chair: Michael Wand, Universiteit Utrecht

Decoupling Noise and Features via Weighted $l_1$-analysis Compressed Sensing
Ruimin Wang
Zhouwang Yang
Ligang Liu
Jiansong Deng
Falai Chen
University of Science and Technology of China

Topology-Varying 3D Shape Creation Via Structural Blending
Ibraheem Alhashim
Honghua Li
Simon Fraser University
Kai Xu
Shenzhen VisuCA Key Lab, Simon Fraser University
Junjie Cao
Dalian University of Technology
Rui Ma
Hao (Richard) Zhang
Simon Fraser University

Continuity Transition With a Single Regular Curved-Knot Spline Surface
Kan-Le Shi
Jun-Hai Yong
Jia-Guang Sun
Jean-Claude Paul
Tsinghua University

L1-Based Construction of Polycube Maps From Complex Shapes
Jin Huang
Tengfei Jiang
Zeyun Shi
Zhejiang University
Yiying Tong
Michigan State University
Hujun Bao
Zhejiang University
Mathieu Desbrun
California Institute of Technology

Harmonic Parameterization by Electrostatics
He Wang
Edinburgh University
Kirill Sidorov
Cardiff University
Peter Sandilands
Taku Komura
Edinburgh University

Shady Images

Thursday, 14 August, 3:45-5:15 pm
Session Chair: Ping Tan, National University of Singapore

Intrinsic Images in the Wild
Sean Bell
Kavita Bala
Noah Snavely
Cornell University

Exposing Photo Manipulation From Shading and Shadows
Eric Kee
Columbia University
James F. O’Brien
University Of California, Berkeley
Hany Farid
Dartmouth College

Automatic Scene Inference for 3D Object Compositing
Kevin Karsch
University of Illinois at Urbana-Champaign
Kalyan Sunkavalli
Sunil Hadap
Nathan Carr
Hailin Jin
Adobe Research
Rafael Fonte
Michael Sittig
David Forsyth
University of Illinois at Urbana-Champaign

AverageExplorer: Interactive Exploration and Alignment of Visual Data Collections
Jun-Yan Zhu
Yong Jae Lee
Alexei Efros
University of California, Berkeley
Exhibitor Tech Talks

Comprehensive summaries of the latest technologies in computer graphics and interactive techniques. SIGGRAPH 2014 exhibitors demonstrate software, hardware, and systems; answer questions; and host one-on-one conversations about how their applications improve professional and technical performance.

FSE+Ex  #SIGGRAPH2014

Unity Technology

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

Making an Endless-Runner Game With Unity

An in-depth hand’s-on presentation on how to create an endless-runner game. The first step is writing a script to effectively create the endless level. The second step is designing the running character, who can jump and dive with Mecanim. The last step is creating the GUI with Unity’s new UGUI.
Exhibitor List (as of 6 June)

**FSE+Ex #SIGGRAPH2014**

**Exhibition Hours**

<table>
<thead>
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<th>Day</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Tuesday, 12 August</td>
<td>9:30 am-6 pm</td>
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<tr>
<td>Wednesday, 13 August</td>
<td>9:30 am-6 pm</td>
</tr>
<tr>
<td>Thursday, 14 August</td>
<td>9:30 am-3:30 pm</td>
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</tbody>
</table>

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

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**FIRST-TIMER**  **MOBILE**  **GAMES**

**FSE+Ex Exhibits Fast Forward**

**Monday, 11 August , 3:45-5:15 pm**

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

- Dimensional Imaging
- Eddison
- Eizo Inc.
- EnvisionTEC
- Epson America
- Etri
- ETRI
- Faceshift AG
- Facet School of Visual Effects
- FARO Tec.
- ForgeFX Simulators
- Formlabs, Inc.
- FORUM8 Co., Ltd.
- The Foundry Visionsmongers
- Fuel3D Inc.
- Full Sail University
- FXGear, Inc.
- GI LLC
- German Digital Media
- Government of British Columbia
- Ministry of International Trade
- IATSE
- IdN magazine
- IEEE Computer Society
- Imagination Technologies
- Imaginer Systems Ltd.
- Imaging Media Research Center, Korea Institute of Science and Technology
- Intel Corporation
- Isotropic
- JourneyEd
- Korea Creative Content Agency (KOCCA)
- Lightgrid
- Lightwork Design Ltd.
- LMI Technologies Inc.
- Lost Boys Studios
- Luxion, Inc.
- MAXON
- Motion Analysis Corporation
- MSI Computer
- Next Limit Technologies
- NGRAIN
- NVIDIA Corporation
- Oculus
- Ontario Canada Delegation
- Open Exhibits
- OptiTrack
- OTOY, Inc.
- Panasonic
- Peer 1 Hosting
- PhaseSpace Inc
- PipelineFX, LLC
- Pixar Animation Studios
- PNY Technologies
- Point Grey Research, Inc.

- Prometheus Kaleido Beijing Technology Limited
- ProMexico
- Purdue University
- QUALCOMM Technologies Inc.
- Quebec Film and Television Council
- Reallusion Inc.
- RebusFarm GmbH
- Ringling College of Art and Design
- Savannah College of Art and Design
- Scanline VFX
- SensoMotoric Instruments, Inc.
- Shapeways
- Sheridan College
- Shotgun Software, Inc.
- SIAT, Simon Fraser University,
- School of Interactive Arts and Technology
- Side Effects Software
- Siliconarts, Inc.
- Simply Computing
- Simplygon
- Sketchfab Inc.
- Smith Micro Software
- SpeedTree
- Spheron-VR AG
- Stereolabs
- Stichting Krita Foundation
- Stratasys 3D Printers & Production Systems
- Supermicro
- Synterial MotionWex
- Taylor Francis/CRC/ Focal Press
- TechViz
- Think Tank Training Centre
- Thinkbox Software Inc.
- Tinkerman Studios
- United Scenic Artists, Local USA 829 IATSE
- Unity Technologies
- The University of the Arts
- VanArts
- Vancouver Animation School
- Vancouver Film School
- Vernon Technology Solutions
- Vicon
- Virtual Motion Labs
- Wacom Technology
- Web3D Consortium
- Western Digital
- zSpace, Inc.
The Job Fair is absolutely the best place at SIGGRAPH 2014 for employers to meet with thousands of job seekers from around the globe!

Once again, Job Fair Exhibitors will be posting their jobs on the CreativeHeads.net and ACM SIGGRAPH job boards one month prior to the conference. This allows SIGGRAPH 2014 attendees to connect with employers before the conference, during the conference via the Job Fair, and after the conference via the CreativeHeads.net job board and candidate profiling system.

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

Animal Logic
Sydney, New South Wales Australia

Apple, Inc.
Cupertino, California USA

Bardel Entertainment Inc.
Vancouver, Kelowna, British Columbia Canada & Los Angeles, California USA

Blizzard Entertainment
Irvine, California USA

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

CreativeHeads.net
Manhattan Beach, California USA

Double Negative Visual Effects
London, United Kingdom

Esri
Redlands, California USA and Zürich, Switzerland

Framestore CFC
London, United Kingdom

Image Engine
Vancouver, British Columbia Canada

Intel Corporation
Santa Clara, California USA

Lucas Film/Industrial Light & Magic
San Francisco, California USA

Method Studios
Santa Monica, California USA

Nerd Corps Entertainment
Vancouver, British Columbia Canada

Piranha Games
Vancouver, British Columbia Canada

Pixar Animation Studios
Emeryville, California USA

Rainmaker Entertainment
Vancouver, British Columbia Canada

Relic Entertainment
Vancouver, British Columbia Canada

Sony Pictures Imageworks
Culver City, California, USA

Topalsson GmbH & Co. KG
Munich, Germany
General Information

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

Bookstore
BreakPoint Books offers the latest and greatest books, CDs, and DVDs on computer animation, graphic design, gaming, 3D graphics, modeling, and digital artistry. The bookstore features recent books by SIGGRAPH 2014 speakers and award winners. To suggest books, CDs, or DVDs that should be available in the bookstore, contact:

Breakpoint Books
hemsath@msn.com

Camera and Recording Policies
No cameras or recording devices are permitted at SIGGRAPH 2014. Abuse of this policy will result in the loss of the individual’s registration credentials. SIGGRAPH 2014 employs a professional photographer and reserves the right to use all images this photographer takes during the conference for publication and promotion of future ACM SIGGRAPH events.

Hotel Reservations
SIGGRAPH 2014 has negotiated significant discounts at select hotels. The discounted rates are available to conference attendees only and guaranteed until 14 July.

Reservations made after 14 July are based on availability only, and rates may increase. Visit the SIGGRAPH 2014 web site to access the easy-to-use online hotel reservation system, which includes complete information on housing policies, procedures, and rates:
s2014.siggraph.org

Or contact:
Experient, Inc.
SIGGRAPH 2014 Housing Provider
+1.888.987.6545 (US and Canada)
+1.847.996.5834 (International)
siggraph@experient-inc.com

Hotel/Convention Center Shuttle Bus Service
There is no shuttle service provided between the SIGGRAPH 2014 hotels and the Vancouver Convention Centre. The transit system in Vancouver provides excellent service, and many hotels are within easy walking distance.

Transportation From Vancouver International Airport
Canada Line provides rapid rail service between downtown and Vancouver International Airport (YVR). Trains leave every four minutes from Vancouver and every seven minutes from Richmond and YVR. A one-way trip from YVR to downtown Vancouver takes only 25 minutes on a two-zone fare of $3.75, plus the $5 Canada Line YVR AddFare.

The Skytrain Waterfront Station is conveniently located steps away from the East Building of the convention center and one block from the West Building.

Vancouver Convention Centre Accessibility
The convention center is handicap accessible. If you have special needs or requirements, please call Conference Management at:
+1.312.673.5868

Food Services
The Vancouver Convention Centre has a variety of concessions and Café’s available throughout the convention center. There are also a variety of food outlets located underground at the Food Fair between the East Building and the Waterfront Centre Hotel:

Flying Wedge
Hapa Izakaya
Jugo Juice
McDonald’s
Nature’s Fair
Pita Express
Famous Wok
Fatburger
Starbucks
Subway
Taco Time
Thai Express
Tim Hortons
Umi Sushi
Umi Sushi
Rogue Urban Tavern

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 ($5 per item/per day) are available at the Vancouver Convention Centre from Sunday, 10 August through Thursday, 14 August.

Parking
SIGGRAPH 2014 attendees can park at the Vancouver Convention Centre parking lot:
Vancouver Convention Centre East 999 Canada Place; +1.866.856.8080
Vancouver Convention Centre West 1055 Canada Place; +1.604.681.7311

For additional parking information, visit:
www.vancouverconventioncentre.com/thecity/getting-here/

Why Stay in An Official SIGGRAPH 2014 Hotel?
It’s an important decision: where to sleep during SIGGRAPH 2014. Your best option is one of the official SIGGRAPH 2014 hotels.

Here’s why:

1. Official hotels have been inspected and carefully selected by SIGGRAPH. They’re SIGGRAPH-endorsed. They’re cool, comfortable, and convenient.

2. In the official hotels, you’re closer to SIGGRAPH friends and colleagues. It’s much easier to connect in real life over breakfast, lunch, coffee, drinks, or dinner.

3. Most official hotels are within walking distance of the Vancouver Convention Centre or near quick, easy transportation links.

4. You can discuss questions or concerns directly with the helpful people at SIGGRAPH 2014’s official housing desk at the Vancouver Convention Centre in the West Building, Hall B.

5. Booking terms are very reasonable when you use the official online reservation system: No change fees. No full prepayment.

6. The official discounted rates are guaranteed until 14 July 2014.

7. If you use other hotel-reservation systems, you have to live with their way-too-complicated terms and conditions. And if you have a reservation or room problem, SIGGRAPH 2014 can’t help you negotiate with the hotel.

8. Future hotel rates and registration fees will remain reasonable, because SIGGRAPH’s negotiating position with host cities and hotel companies will be stronger.

9. It’s the right thing to do, for yourself, the SIGGRAPH community, and your favorite conference.
# Registration Fee Information

## Conference Registration Categories
- **F** Full Conference Access
- **S** Select Conference Access
- **E+** Exhibits Plus

## One-Day Registration
One-Day registration includes one day admission to all conference programs and events and the Exhibition (Tuesday-Thursday). Does not include the SIGGRAPH 2014 Reception ticket.

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

### Refund and Cancellation Deadlines
Cancellation requests for refunds must be made in writing and received on or before Friday, 28 June. No refunds will be issued after this date. There is a refund processing fee of $US75.

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

<table>
<thead>
<tr>
<th></th>
<th>F Full Conference</th>
<th>S Select Conference</th>
<th>E+ Exhibits Plus</th>
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<tbody>
<tr>
<td><strong>Member</strong></td>
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<tr>
<td>On or before 20 June</td>
<td>$945</td>
<td>$325</td>
<td>$155</td>
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<tr>
<td>On or before 18 July</td>
<td>$1,120</td>
<td>$325</td>
<td>$180</td>
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<tr>
<td>At SIGGRAPH 2014</td>
<td>$1,220</td>
<td>$380</td>
<td>$205</td>
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| **Non Member**     |                   |                     |                  |
| On or before 20 June | $1,145            | $380                | $180             |
| On or before 18 July | $1,320            | $405                | $230             |
| At SIGGRAPH 2014   | $1,445            | $430                | $230             |

| **Student**        |                   |                     |                  |
| On or before 20 June | $395             | $250                | $95              |
| On or before 18 July | $445             | $275                | $125             |
| At SIGGRAPH 2014   | $495             | $300                | $145             |

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

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

<table>
<thead>
<tr>
<th>Event</th>
<th>F Full Conference</th>
<th>S Select Conference</th>
<th>E+ Exhibits Plus</th>
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<td>Awards Presentation (Monday)</td>
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<tr>
<td>Birds of a Feather</td>
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<td>Computer Animation Festival - Daytime Select</td>
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<tr>
<td>Computer Animation Festival - Electronic Theater</td>
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<tr>
<td>Courses</td>
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<td>Dailies (Wednesday)</td>
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<td>Emerging Technologies</td>
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<td>Exhibition (Tuesday - Thursday)</td>
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<tr>
<td>Exhibitor Tech Talks</td>
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<td>Fast Forward - Exhibits (Monday)</td>
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<tr>
<td>Fast Forward - Technical Papers (Sunday)</td>
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<tr>
<td>Film and Game Concept Art Lounge</td>
<td>X</td>
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<td>International Center</td>
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<tr>
<td>Job Fair (Tuesday - Thursday)</td>
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<tr>
<td>Keynote Session (Monday &amp; Wednesday)</td>
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<td>Papers - Technical</td>
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<td>Posters and Poster Sessions</td>
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<td>Production Sessions</td>
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<td>Reception*</td>
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<td>Real-Time Live! (Tuesday)</td>
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<td>Studio</td>
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<td>Talks</td>
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<tr>
<td>SIGGRAPH 2014 Conference Chair</td>
<td>Dave Shreiner</td>
<td>ARM, Inc.</td>
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<tr>
<td>ACM SIGGRAPH Conference Chief Staff Executive</td>
<td>Angela Anderson</td>
<td>Talley Management Group, Inc.</td>
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<tr>
<td>SIGGRAPH 2014 Conference Manager</td>
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<td>Talley Management Group, Inc.</td>
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<tr>
<td>Art Gallery Chair</td>
<td>Başak Senova</td>
<td>Koç University</td>
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<tr>
<td>Art Papers Chair</td>
<td>Teri Rueb</td>
<td>University at Buffalo</td>
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<tr>
<td>Audio/Visual Support</td>
<td>Freeman Audio Visual Solutions</td>
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<tr>
<td>Computer Animation Festival Director</td>
<td>Jerome Solomon</td>
<td>Cogswell College</td>
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<td>Computer Animation Festival Production</td>
<td>Roy Anthony</td>
<td>Christie Digital Systems</td>
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<td>Conference Administration</td>
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<td>Conference Management/Marketing and Media</td>
<td>Mashhuda Glencross</td>
<td>Loughborough University</td>
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<tr>
<td>Courses Chair</td>
<td>Mashhuda Glencross</td>
<td>Loughborough University</td>
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<tr>
<td>Dailies Chair</td>
<td>Mark Elendt</td>
<td>Side Effects Software Inc.</td>
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<td>Education Liaison</td>
<td>Ginger Alford</td>
<td>Trinity Valley School</td>
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<tr>
<td>Emerging Technologies Chair</td>
<td>Thierry Frey</td>
<td>D+S.T.M.</td>
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<td>Natalya Tatarchuk</td>
<td>Bungie, Inc.</td>
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<td>Texas A&amp;M University</td>
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<td>GraphicsNet Chair</td>
<td>David Spoelstra</td>
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<td>Jacky Bibliowicz</td>
<td>Autodesk Canada</td>
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<td>Jesse Barker</td>
<td>ARM, Inc.</td>
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<td>Cabral Rock</td>
<td>Image Engine Design Inc.</td>
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<td>Robert C. Berger</td>
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<td>Posters Coordinator</td>
<td>Juan Miguel de Joya</td>
<td>University of California, Berkeley</td>
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<td>Stephen N. Spencer, ACM SIGGRAPH</td>
<td>Publications Committee Chair</td>
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<td>Real-Time Live! Chair</td>
<td>Nico Gonzalez</td>
<td>University of Washington</td>
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<td>SIGGRAPH 2013 Conference Chair</td>
<td>Mk Haley</td>
<td>Disney Research</td>
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<td>SIGGRAPH 2015 Conference Chair</td>
<td>Marc J. Barr</td>
<td>Middle Tennessee State University</td>
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<td>Jeremy Kenisky</td>
<td>Geomedia, Inc.</td>
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<td>Courtney Starrett</td>
<td>Winthrop University</td>
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<td>Technical Papers Chair</td>
<td>Adam Finkelstein</td>
<td>Princeton University</td>
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<td>Web Programming</td>
<td>The OPAL Group</td>
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Co-Located Events

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

For registration information:
http://s2014.siggraph.org/attendees/co-located-events

**ACM Symposium on Applied Perception**
8-9 August
Simon Fraser University, Segal Building
http://sap2014.cs.mtu.edu/

**Expressive 2014 CAe+SBIM+NPAR**
8-10 August Harbour Centre
Harbour Centre
http://expressive2014.mpi-inf.mpg.de/

**WEB3D 2014**
9-10 August
Pan Pacific Hotel