Courses Fact Sheet: SIGGRAPH Asia 2014

Chair: Hao (Richard) Zhang, Simon Fraser University, Canada
Conference: Wednesday 3 December – Saturday 6 December
Exhibition: Thursday 4 December – Saturday 6 December

Fast Facts
- The SIGGRAPH Asia 2014 Courses program received 22 submissions, of which 3 were from Asia, 5 from Europe, 1 from South America, and 13 from North America.
- 11 submissions were accepted by the Courses Committee (50% acceptance).
- 9 curated courses are invited to further enhance the course program.
- In total, the line-up of 20 courses consists of 12 half-day courses and 8 short courses, including one hands-on course.
- The courses program will see experts present a wide variety of topics in computer graphics and interactive techniques, with a special focus on design and content creation, interactive technologies, user experiences, as well as fabrication and big (visual) data, all of which with content tailored to both seasoned professionals and students.

A Quote from the SIGGRAPH Asia 2014 Courses Chair:

“This year’s SIGGRAPH Asia course program combines offerings on traditional and popular topics in computer graphics and interaction techniques with coverage on emerging topics in our evolving field. Introductory to intermediate-level courses on rendering, geometric modeling, animation, as well as OpenGL and shader programming provide training for students and junior professionals. We push the boundaries of interactive technologies with courses ranging from interactive virtual characters and musical interface designs to cross-cultural user experiences with an element tailored to Chinese audience. There is even a hands-on course on motion capture using mobile devices. Courses on 3D printing and data-driven visual computing provide unique perspectives on fabrication and big data from the field of computer graphics. Finally, we are bringing back the popular course on “How to write a SIGGRAPH paper”, unique to SIGGRAPH Asia, which will feature a line-up of speakers who are some of the most prolific authors of SIGGRAPH technical papers.”

SIGGRAPH Asia 2014 Courses Program Highlights

- How to write a SIGGRAPH paper

  Daniel Cohen-Or, Tel-Aviv University, Israel
  Dani Lischinski, Hebrew University of Jerusalem, Israel
  Dinesh Manocha, University of North Carolina, Chapel Hill, USA
  Niloy Mitra, University College London, UK
  Xin Tong, Microsoft Research Asia, China
  Li-Yi Wei, Chinese University of Hong Kong, China

In this invited course, some of the most prolific authors of SIGGRAPH technical papers will offer their insights, personal experiences, and the DOs and DON’Ts on how to make or write a SIGGRAPH paper.
• How to design and build new musical interfaces

Michael Lyons, Ritsumeikan University, Japan
Sidney Fels, University of British Columbia, Canada

This course introduces the field of musical interface design and implementation. Participants will learn key aspects of the theory and practice of designing original interactive music technology with case studies including augmented and sensor based instruments, audio-visual instruments, mobile, and networked music making.

• 3D printing oriented design: geometry and optimization

Ligang Liu, University of Science and Technology, China
Ariel Shamir, IDC, Israel
Charlie C. L. Wang, Chinese University of Hong Kong, China
Emily Whiting, Dartmouth College, USA

In this invited course, the speakers will review recent researches on computational techniques of 3D printing which have received considerable attention for assisting users to generate desired manufacturable objects. This will be followed by a discussion on some other shape design problems in 3D printing.

• ShaderToy: learn to create everything in a fragment shader

Inigo Quilez, Beautypi, USA
Pol, Jeremias, Beautipi, USA

In this short course, the speakers will introduce innovative, artistic and creative ways to use fragment shaders in your web browser using Shadertoy. Participants will learn techniques such as raymarching, procedural content creation (texturing, modelling and animation), fractal geometry, image compression and volumetric rendering, by using live coding.

• Cross-Cultural User-Experience Design: Worldwide and China

Aaron Markus, AM+A, USA

This invited short course summarizes key principles and techniques, and surveys issues and current products/services. Special attention is given to information design and visualization, to emerging culture differences, and to current design guidelines, templates, and tools. Participants will be informally quizzed about their cross-cultural experience and asked to analyze brief cross-cultural communication examples.

• Data-driven visual computing

Kai Xu, National University of Defense Technology, China
Alexei Efros, University of California at Berkeley, USA
Ariel Shamir, IDC, Israel
In this invited course, the speakers will cover some recent developments of data-driven visual computing, from both graphics and vision community. First, they will introduce recent advances in data-driven 3D shape processing and analysis. Then they will discuss high-level image processing based on large collection of images from Internet.

• Hands-on course: motion capture for mobile phones

Feijo Filho, Nokia Institute of Technology, Brazil

This hands-on course is meant for novice programmers with experience in any language. Motion capture or augmented reality exercises for all major Smartphone platforms (Android, iPhone, and Windows Phone) will be offered. Participants will be grouped based on platforms for hands-on exercises, utilizing the motion capture features in their mobile projects for light painting, spatial gestures capturing, DIY animation, etc.

• Shader interoperability: baking and reusing materials across rendering architectures at Pixar

Paul Kanyuk, Pixar Animation Studios, USA

Ever find yourself wanting to make a last minute topology change to a model, but been frustrated by broken shaders? How about seeing the same shader across different apps and renders? Need a new tool for render optimization? If so, check out this short course on Pixar’s approach to shader interoperability.

• Bringing stories to life: developing narrative for games, animation, and VFX

Craig Caldwell, University of Utah, USA

This short course presents professional techniques for how stories are developed. These storytelling techniques have been condensed and visually organized for computer graphics professionals whose work make animation, VFX, apps, and video games come to life. This information is used in collaborating with producers, directors, and supervisors of animation/VFX/games.

All information about the Courses program can be found on http://sa2014.siggraph.org/en/attendees/courses.html.

For more information about SIGGRAPH Asia 2014 program updates, please visit http://sa2014.siggraph.org.