

# High Performance Graphics 2012

## Call For Participation

### Introduction

We are pleased to announce High-Performance Graphics 2012. High Performance Graphics is the leading international forum for **performance-oriented graphics systems** research including **innovative algorithms**, **efficient implementations**, and **hardware architecture**. The conference brings together researchers, engineers, and architects to discuss the complex interactions of massively parallel hardware, novel programming models, efficient graphics algorithms, and novel applications. High Performance Graphics was founded in 2009 to synthesize and broaden on two important and well-respected conferences in computer graphics: [Graphics Hardware](#) and [Interactive Ray Tracing](#).

### Conference Info

Co-sponsored by Eurographics and ACM SIGGRAPH (pending)

The program features three days of paper and industry presentations, with ample time for discussions during breaks, lunches, and the conference banquet.

The conference, which will take place on June 25-27, is co-located with the Eurographics Symposium on Rendering in Paris, France.

The conference website is located at <http://www.highperformancegraphics.org/>

### Papers Track

We invite original and innovative performance-oriented contributions from all areas of graphics, including hardware architectures, rendering, physics, animation, simulation, and data structures, with topics including (but not limited to):

- Interactive rendering pipelines (hardware or software)
  - Shading architectures
  - Spatial acceleration data structures
  - Surface representations and tessellation algorithms
  - Reconfigurable rendering pipelines
  - Texturing and compression/decompression algorithms
- Interactive rendering algorithms (hardware or software)
  - Visibility algorithms (ray tracing, rasterization, transparency, anti-aliasing, ...)
  - Illumination algorithms (shadows, global illumination, ...)
  - Image sampling strategies and filtering techniques
- Graphics hardware and systems
  - Novel fixed-function hardware design
  - Graphics hardware simulation, optimization, and performance measurement
  - Novel display technologies
- Languages and compilation
  - Programming models and APIs for graphics
  - Shading language design and implementation
  - Compiling for massively parallel graphics architectures
- Parallel computing for graphics
  - Scalable algorithms for parallel rendering and large data visualization
  - Physics and animation
  - Computer vision
  - GPU computing
- Mobile graphics
  - Hardware design for mobile, embedded, integrated, and low-power devices
  - Algorithms, rendering engines, and applications for mobile graphics
  - Innovative visual computing applications for mobile devices

### Papers Length and Format

There is no fixed maximum length for a paper. However, the magnitude of the contribution must be proportional to the length of the paper. Papers longer than ten typeset pages in the final format must make a very significant contribution to be accepted. Papers of four or fewer pages will be held to a less strict standard of citation and description of related work (comparison to the strongest alternative techniques is still important, but an exhaustive review is not necessary). All accepted papers are treated equally, i.e., included in the electronic proceedings and presented at the conference. At least one paper author must attend the conference to present an accepted paper. The papers will be archived in the ACM and Eurographics Digital Libraries.

### Paper Submission Info

Authors are invited to upload papers electronically in Adobe PDF format by visiting the submissions area on <http://www.highperformancegraphics.org/>. We encourage anonymous submissions (in which the paper contains no identifying information) if possible. Video sequences in QuickTime, MPEG, or AVI format may be submitted using the electronic submission system. Dual submission is not allowed; any paper submitted to another venue and under consideration during the HPG review cycle will be rejected. Papers and short papers should be formatted according to the Eurographics Computer Graphics

Forum publication guidelines: <http://www.eg.org/EG/Publications/guidelines>; we recommend using the templates given there.

For further information please contact: [papers@highperformancegraphics.org](mailto:papers@highperformancegraphics.org)

## Hot 3D Systems Track

We invite vendors in the graphics industry to present their latest and greatest 3D chips, high-performance software, and system designs.

Presentations should be 20 minutes long, technical rather than marketing-oriented, and with a focus on real products. Hot 3D presentations are not considered archival publications for the purposes of future submission to peer-reviewed venues.

The deadline for Hot 3D applications is Monday, May 7.

For further information please contact: [hot3d@highperformancegraphics.org](mailto:hot3d@highperformancegraphics.org)

## Posters

We also invite the submission of posters describing on-going or late-breaking work. In addition to traditional posters, this session will be enhanced to provide opportunities for paper authors to present implementation details or hands-on demonstrations.

The deadline for poster submissions is Monday, May 7. Notification of acceptance is Monday, May 14.

To submit a poster, please:

- Prepare an extended abstract (one page maximum) that summarizes the work using the paper format described above.
- Prepare a high-quality version of the final poster.
- Send both items (in PDF format) to [posters@highperformancegraphics.org](mailto:posters@highperformancegraphics.org)

Additional information:

- Posters will be exhibited in the break areas throughout the conference. For each poster, we will attempt to make space available for interactive demonstrations (if necessary and only upon request).
- Poster authors will be responsible for printing the poster, bringing it to the conference, and putting it up. Easels will be provided.

For further information please contact: [posters@highperformancegraphics.org](mailto:posters@highperformancegraphics.org)

## Important Dates

All deadlines are at 11:59 PM GMT-7.

### Papers:

Tuesday, April 3	Deadline for paper abstract submissions (strongly encouraged)
Friday, April 6	Deadline for paper submissions
Monday, May 14	Notification of paper acceptance
Tuesday, May 22	Revised papers due

### Hot 3D & Posters:

Monday, May 7	Deadline for poster and Hot3D submissions
Monday, May 14	Notification of poster and Hot3D acceptance

### General:

Monday-Wednesday, June 25-27	Conference
------------------------------	------------

## Best Paper Award

An award of \$500 will be given to the authors of the most outstanding paper presented at the event. The award is based on the accuracy, originality, and importance of the technical concept, the quality and readability of the manuscript, as well as the content and delivery of the verbal presentation. To qualify for this award, one or more of the authors must attend the conference and present the paper. The winner will be chosen by the organizing committee based on audience feedback and will be announced at the end of the conference.

## Demonstrations

Presenters and participants are invited to bring prototypes and products for demonstration at the event. Demonstrations will be held during breaks and before and after the sessions. We highly encourage paper authors and industry presenters to demonstrate their systems. Please contact the organizing committee by email at [general@highperformancegraphics.org](mailto:general@highperformancegraphics.org) to arrange for space or electrical connections that may be required for your demonstration.

## Organization

### General Chairs:

Michael Doggett (Lund University)  
David McAllister (NVIDIA)

### Program Chairs:

Warren Hunt (Intel)  
Jens Krüger (IVDA Saarland University)

### Papers Chairs:

Carsten Dachsbacher (Karlsruhe Institute of Technology, Germany)  
Jacob Munkberg (Intel)  
Jacopo Pantaleoni (NVIDIA)

### Poster Chairs:

Manfred Ernst (Intel)  
Justin Hensley (AMD)

### Local Arrangements Chairs:

Elmar Eisemann (Telecom ParisTech)  
Tamy Boubekeur (Telecom ParisTech)

### Publicity Chairs:

Christiaan Gribble (Grove City College, USA)  
Josh Steinhurst (Bucknell University, USA)

### Treasurers:

Anselmo Lastra (University of North Carolina, USA)  
Steve Molnar (NVIDIA, USA)