The Future of ...

Computer Vision

Geometric Modeling

Visual Analytics

Rendering

January 26th, 2011

VISUAL COMPUTING TRENDS 2011

TechGate Vienna, Donau-City-Straße 1,
1220 Vienna, AUSTRIA

This symposium presents future views for science and industry from international top level experts. Visual Computing is the discipline of computer science which deals with the acquisition, representation, manipulation, analysis, synthesis and application of visual information, i.e. images and image sequences in a spatial and temporal context.

Visual Computing has evolved from the methodological merging of image processing, computer vision, computer graphics and visualisation.

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Short Description of the Speakers

Bernt Schiele

Bernt Schiele is Director at the Max-Planck-Institute for Informatics, Saarbrücken, Germany since 2010. He studied computer science at the University of Karlsruhe, Germany. He worked on his master thesis in the field of robotics in Grenoble, France, where he also obtained the „diplome d'etudes approfondies d'informatique". In 1994 he worked in the field of multi-modal human-computer interfaces at Carnegie Mellon University, Pittsburgh, PA, USA. In 1997 he obtained his PhD from INP Grenoble, France in the field of computer vision. Between 1997 and 2000 he was postdoctoral associate and Visiting Assistant Professor at the Media Laboratory of the Massachusetts Institute of Technology, Cambridge, MA, USA. From 1999 until 2004 he was Assistant Professor at the Swiss Federal Institute of Technology in Zurich (ETH Zurich). From 2004 until 2010 he was full professor for computer science at TU Darmstadt, Germany.

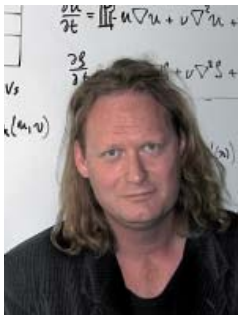
His main research interests are in computer vision, perceptual computing, statistical learning methods, wearable computers, and integration of multi-modal sensor data. He is particularly interested in developing methods which work under real-world conditions.

Pat Hanrahan

Pat Hanrahan is a computer graphics researcher, the Canon USA Professor of Computer Science and Electrical Engineering in the Computer Graphics Laboratory at Stanford University. His research focuses on rendering algorithms, graphics processing units, as well as scientific illustration and visualization.
Hanrahan received a Ph.D. in Biophysics from the University of Wisconsin–Madison in 1985. In the 1980s, he worked at the New York Institute of Technology Computer Graphics Laboratory, Digital Equipment Corporation, and at Pixar. In 1989, he joined the faculty of Princeton University. In 1995, he moved to Stanford University. As a founding employee at Pixar Animation Studios in the 1980s, Hanrahan was part of the design of the RenderMan Interface Specification and the RenderMan Shading Language. He has been involved with several Pixar productions, including Tin Toy, The Magic Egg, and Toy Story. In 2005, Stanford University was named the first Regional Visualization and Analytics Center (RVAC), where Hanrahan assembled a multidisciplinary team of researchers, focused on broad-ranging problems in information visualization and visual analytics.

Hanrahan has received two Academy Awards for his work in rendering and computer graphics. He has also received the 2006 Career Award for Visualization Research from the IEEE Visualization Conference, the 2003 SIGGRAPH Steven A. Coons Award for Outstanding Creative Contributions to Computer Graphics, for „leadership in rendering algorithms, graphics architectures and systems, and new visualization methods for computer graphics", and the 1993 SIGGRAPH Computer Graphics Achievement Award.

Jos Stam



Jos Stam was born in the Netherlands and educated in Geneva, Switzerland, where he received dual Bachelor degrees in computer science and pure mathematics. In 1989, Stam moved to Toronto where he completed his Masters and Ph.D. degrees in computer science. After that he pursued postdoctoral studies as a ERCIM fellow at INRIA in France and at VTT in Finland. In 1997 Stam joined the Alias Seattle office as a researcher and stayed there until 2003 to relocate to Alias‘ main office in Toronto. Stam is now employed with Autodesk as a Senior Research Scientist as part of Autodesk‘s acquisition of Alias in 2006. Stam‘s research spans several areas of computer graphics: natural phenomena, physics-based simulation, rendering and surface modeling, especially subdivision surfaces.

He has published papers in all of these areas in journals and at conferences, most notably at the annual SIGGRAPH conference. In 2005 Stam was awarded one of the most prestigeous awards in computer graphics: the SIGGRAPH Computer Graphics Achievement Award. Stam also won two Technical Achievement Awards from the Academy of Motion Picture Arts and Sciences: in 2005 for his work on Subdivision Surfaces and in 2007 for his work on fluid dynamics.

Helmut Pottmann

Helmut Pottmann is Director of the Geometric Modeling and Scientific Visualization Research Center and Professor of Applied Mathematics and Computational Science in the Mathematical and Computer Sciences and Engineering Division at KAUST. He assumed his duties in June 2009.
Pottmann is currently professor of Geometry and head of the Geometric Modeling and Industrial Geometry Research Unit at Vienna University of Technology. He received his master’s degree and a doctorate in Mathematics also from Vienna University of Technology. His research interests are in applied geometry and visual computing, in particular geometric modeling, geometry processing, geometric computing for architecture and manufacturing, robot kinematics, 3D computer vision and visualization. He has also many years of experience in cooperation with industry.

Pottmann tries to build bridges between academia and industry by linking topics of pure geometry to the solution of problems in various application areas. Currently, he employs and further develops methods of discrete and computational differential geometry for the solution of challenging problems which arise in the fabrication of freeform structures in contemporary architecture. Pottmann is a member of the executive board of the Austrian Mathematical Society. He has been program director and vice chair of the SIAM Activity Group on Geometric Design and served on the editorial boards of several journals and book series including Advances in Computational Mathematics, Computer Aided Design, Computer Aided Geometric Design, Geometry and Computing, SIAM Journal on Imaging Sciences and The Visual Computer.

Program

9h00 Registration

9h20 Opening and Welcome
Prof. Dr. Werner Purgathofer, TU Wien

9h30 Prof. Dr. Bernt Schiele, MPII Saarbrücken, Germany
„The Future of Computer Vision“

10h20 Discussion

10h50 Coffee Break

11h15 Prof. Dr. Pat Hanrahan, Stanford University, USA
„The Future of Visual Analytics“

12h05 Discussion

12h35 Lunch

14h15 Dr. Jos Stam, Autodesk Inc., Canada
„The Future of Rendering“

15h05 Discussion

15h35 Coffee Break

16h00 Prof. Dr. Helmut Pottmann, KAUST, Saudi-Arabia
„The Future of Geometric Modeling“

16h50 Discussion

17h20 Coffee Break

17h30 Registration for VRVis 11th Birthday Party

18h00 VRVis 11th Birthday Party

Registration

Participation is free, however advance registration is required! To register please visit our site: http://www.vrvis.at or contact visual-computing-trends@vrvis.at

Venue

TechGate, Donau-City-Str. 1, 1220 Vienna / http://www.techgate.at

Public Transport: U1 | Station Kaisermühlen - Vienna International Center, Exit Schüttaustraße. Two minutes walk to TechGate.

By Car: A22, Exit Vienna International Center, follow the signs to TechGate Parking Garage

Organizer

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