

The 2015 Visualization Career Award

Markus Gross

The 2015 Visualization Career Award goes to Markus Gross in recognition of sustained seminal research advances in visualization, displays, computer graphics, and computer vision and the resulting establishment of multiple companies and software packages. The IEEE Visualization & Graphics Technical Community (VGTC) is pleased to award Markus Gross the 2015 Visualization Career Award.

BIOGRAPHY

Markus Gross is a full professor of Computer Science at the Swiss Federal Institute of Technology (ETH) in Zurich, head of the Computer Graphics Laboratory at ETH, a Vice President of Disney Research and the director of Disney Research in Zurich. Gross received a master of science in electrical and computer engineering and a Ph.D. in computer graphics and image analysis, both from Saarland University in Germany in 1986 and 1989. From 1990 to 1994, he worked as a research scientist at the Computer Graphics Center at Technical University of Darmstadt, where he founded and directed the Visual Computing Group. In 1994, he joined the Computer Science faculty at ETH Zurich and started the Computer Graphics Laboratory. From 2004 to 2008, Gross served as the director of the Institute of Computational Science at ETH. In 2008, he assumed the role of the director of Disney Research Zurich, one of the corporate research laboratories of the Walt Disney Company.

Gross started his career in visualization. His early work includes the use of wavelets for surface representations and progressive simplification in scientific visualization. Later, he pioneered point-based visualization and graphics. His research contributed significantly to the understanding of points as primitives for the representation and display of 3-dimensional geometry as well as of scientific datasets. He also developed the world's first hardware architecture for efficient point rendering. In addition, Gross and his students have created numerous algorithms for the simulation and visualization of physical phenomena, such as deformations, fracture and fluids. These methods are utilized in medical as well as in entertainment applications around the world. A further scientific contribution of Gross was the design of blue-c, an immersive projection and 3D video capture system for collaborative visualization and immersive telepresence. This research was also extended to 3-dimensional video processing and free-viewpoint video, a technology he pioneered. A less well known, but very impactful project exploits multimodal information visualization for training of children with dyslexia, a method used by tens of thousands of children in Swiss elementary schools. Gross' current research interests are focused onto entertainment technology including film production and postproduction, human faces, digital fabrication, and storytelling.

Gross is one of the internationally leading authors in graphics and visualization. His scientific contributions to the field are reflected by over 400, highly cited publications.



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The Swiss Federal Institute of Technology (ETH);
Disney Research Zurich
Award Recipient 2015

Gross serves on the boards of numerous international research institutes, societies, and governmental organizations. He has frequently been a member of the scientific papers committee of IEEE Visualization and an editorial board member of IEEE TVCG and CG&A. He received the Technical Achievement Award from EUROGRAPHICS in 2010 and the Swiss ICT Champions Award in 2011. He is a fellow of the ACM and of the EUROGRAPHICS Association. Further he is a member of the German Academy of Sciences Leopoldina as well as the Berlin-Brandenburg Academy of Sciences and Humanities. In 2013 he received a Technical Achievement Award from the Academy of Motion Picture Arts and Sciences. He holds the Konrad Zuse Medal of German Computer Science Association and he was awarded the Karl Heinz Beckurts price in 2013.

Gross' strong commitment to mentorship is reflected by 44 Ph.D. students he has supervised and graduated. Many of them hold leading positions in academia or industry. Gross also maintains a strong commitment to excellence in teaching and continues to develop new undergraduate and graduate classes in Computer Science at ETH.

Besides his academic achievements Gross' entrepreneurial spirit led to five startup companies, co-founded with his students and collaborators over the years.

AWARD INFORMATION

The IEEE VGTC Visualization Career Award was established in 2004. It is given every year to recognize an individual for a seminal technical achievement in visualization. VGTC members may nominate individuals for the Visualization Career Award by contacting the awards chair, Larry Rosenblum, at vgtc-vis-awards@vgtc.org.