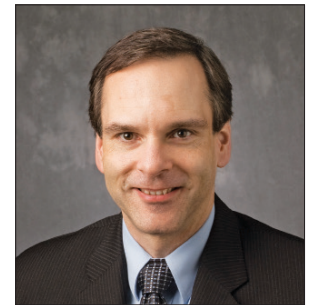


The 2016 Visualization Technical Achievement Award

David Ebert

The 2016 Visualization Technical Achievement Award goes to David Ebert in recognition of foundational work in visual analytics, both through development of fundamental predictive techniques and as Director of the Purdue/DHS Visual Analytics Center of Excellence.



David Ebert

Purdue University
Award Recipient 2016

BIOGRAPHY

David Ebert is the Silicon Valley Professor of Electrical and Computer Engineering at Purdue University. Prior to joining Purdue in 2001, Ebert was on the faculty of the CSEE Department at the University of Maryland Baltimore County (UMBC) from 1993 to 2000. Ebert received his Ph.D. in Computer and Information Science at The Ohio State University in 1991, where he also received his B.S. and M.S. degrees. While at The Ohio State University, he performed research in volume rendering, procedural modeling, and simulating natural phenomena. This work focused on realistic illumination, rendering, and procedural simulation of gaseous phenomena, including his seminal SIGGRAPH paper on rendering and animation of volumetric steam and fog with surface-based objects. This work evolved to modeling, rendering, and animating clouds featured in many movies, including Disney's *Valiant* with the first interactively generated GPU-based clouds in a major movie, and 3 editions of the classic procedural modeling book, *Texturing and Modeling: A Procedural Approach*, co-authored with Ken Musgrave, Darwyn Peachey, Ken Perlin, and Steve Worley.

While at UMBC, David's work moved to turning these rendering techniques into visualization tools for researchers and scientists, including the creation of the field of volume illustration along with Penny Rheingans in 2000. His Purdue and UMBC groups' illustrative visualization papers received several best paper awards, led to numerous Ph.D. dissertations, and helped establish illustrative visualization as a visualization subfield with hundreds of refereed papers on illustrative visualization being produced to date.

In 2004, he was part of the international team that developed the research agenda for the field of visual analytics that extends visualization techniques to interactive actionable decision-making environments. Some of his fundamental work in this area includes novel techniques in improved predictive spatiotemporal visual analytics techniques, resulting in 3 U.S. patents, numerous peer-reviewed publications, and several Ph.D. dissertations. These techniques have been used in analyzing the public health effects of a chemical release in a large metropolitan area; public health syndromic surveillance, zoonotic disease spread; agricultural crop management; logistics planning and resource allocation; U.S. Coast Guard resource allocation, risk analysis and management, and decision making world-wide, as

well as response planning for Hurricanes Irene and Sandy; crime investigation and patrol allocation; and special event monitoring and public safety response based on real-time social media visual analytics.

Over the past 10 years, David has led a network of universities performing research, education, and transition of visual analytics techniques focused on public safety and funded by the U.S. Department of Homeland Security: the Visual Analytics for Command Control and Interoperability Center (VACCINE). VACCINE has deployed software to numerous agencies and these tools are used daily to help people make sense of complex data, make effective decisions, and take action. David's group has developed many interactive visual analytic and user-guided systems on desktops and mobile devices to provide reliable, intuitive tools to improve user effectiveness. He has directed over 20 Ph.D. dissertations and Masters Theses, published over 200 conference and journal articles, patented 7 technologies, and received numerous technical awards including 4 awards for delivering technology to U.S. government agencies. David has also been very active in the visualization community, teaching courses, co-chairing many conference program committees (including both IEEE Vis and IEEE VAST), serving as Editor in Chief of IEEE *Transactions on Visualization and Computer Graphics*, being a member of the IEEE VGTC Executive Committee, chairing the IEEE VAST Steering committee, and serving on the IEEE Computer Society Board of Governors.

AWARD INFORMATION

The IEEE VGTC Visualization Technical Achievement 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 Technical Achievement Award by contacting the awards chair, Larry Rosenblum, at vgtc-vis-awards@vgtc.org.