The 2019 Visualization Career Award

Thomas Ertl

Thomas Ertl
University of Stuttgart
Award Recipient 2019

The 2019 Visualization Career Award goes to Thomas Ertl. Thomas Ertl is a Professor of Computer Science at the University of Stuttgart where he founded the Institute for Visualization and Interactive Systems (VIS) and the Visualization Research Center (VISUS). He received a MSc in Computer Science from the University of Colorado at Boulder and a PhD in Theoretical Astrophysics from the University of Tuebingen. After a few years as postdoc and cofounder of a Tuebingen based IT company, he moved to the University of Erlangen as a Professor of Computer Graphics and Visualization. He served the University of Stuttgart in various administrative roles including Dean of Computer Science and Electrical Engineering and Vice President for Research and Advanced Graduate Education. Currently, he is the Spokesperson of the Cluster of Excellence Data-Integrated Simulation Science and Director of the Stuttgart Center for Simulation Science.

His research interests include visualization, computer graphics, and human computer interaction in general with a focus on volume rendering, flow and particle visualization, hierarchical and adaptive algorithms for large datasets, parallel and hardware accelerated visual computing systems, visual analytics for text collections and geo-information. Important contributions include pre-integrated volume rendering, the optimized use of graphics hardware for the real-time exploration of time-dependent fields and molecular data sets, texture-based volume and flow visualization, web-based and remote visualization, and frameworks for GPU clusters and in-situ applications. This is complemented by contributions to social media analytics, comparative document analysis, eye tracking visualization, semantic web and query visualization, as well as haptic user interfaces and indoor navigation for the blind.

Thomas Ertl is coauthor of more than 500 scientific publications including 70 articles in IEEE Transactions on Visualization and Computer Graphics and Computer Graphics Forum. Prominent visualization research publications are the IEEE Visualization 2000 paper on hardware-accelerated volume and isosurface rendering based on cell-projection, the EG/SIGGRAPH Graphics Hardware 2001 paper on high-quality pre-integrated volume rendering, the 2003 Computer Graphics Forum paper on interactive cutaway illustrations, and the IEEE Visualization 2005 paper on an exploration tool for vortical flows. More recent publications include the PacificVis 2012 paper on spatiotemporal anomaly detection in geo-located twitter messages and the 2016 *TVCG* paper on visual analytics of citation patterns.

Thomas Ertl has had the privilege to collaborate with excellent students, doctoral and postdoctoral researchers, and with many colleagues around the world and he has always attributed the success of his group to working with them. He has advised more than fifty PhD researchers and hosted numerous postdoctoral researchers. More than ten of them are now holding professorships, others moved to prestigious academic or industrial positions. He also has numerous ties to industry and he actively pursues research on innovative visualization applications for the physical and life sciences and various engineering domains as well as in the digital humanities.

Thomas Ertl has been strongly involved in the conferences and journals of our field. He has been a member of numerous program and steering committees and a papers co-chair for Eurographics, IEEE Visualization, EuroVis, IEEE VAST, PacificVis. He served as Editor-in-Chief of the *IEEE Transactions on Visualization and Computer Graphics* and as Chairman of the Eurographics Association. He received the Technical Achievement Award of the IEEE Visualization and Graphics Technical Committee and the Outstanding Technical Contribution Award of the Eurographics Association in 2006, as well as the Eurographics Distinguished Career Award in 2016. He was elected as a Member of the Heidelberg Academy of Sciences and Humanities and he received Honorary Doctorates from TU Vienna in 2011 and from the University of Magdeburg in 2014.

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, Holly Rushmeier, at vgtc-vis-awards@vgtc.org.

The 2019 Visualization Technical Achievement Award

Eduard Gröller

Eduard Gröller

TU Wien
Award Recipient 2019

The 2019 Visualization Technical Achievement Award goes to Eduard Gröller. Eduard Gröller is Professor at the Institute of Visual Computing & Human-Centered Technology (VC&HCT), TU Wien. In 1993 he received his PhD from the same university. His research interests include computer graphics, visualization, and visual computing.

Eduard has been heading the visualization group at VC&HCT for the last 25 years. The group performs basic and applied research projects in all areas of visualization, like biological data visualization, illustrative visualization, information visualization and visual analytics, medical visualization, perception in visualization, and visualization in the material sciences. He has given lecture series on visualization at various other universities (Tübingen, Graz, Praha, Bahia Blanca, Magdeburg, Bergen). He has been a scientific proponent and currently is a key researcher of the VRVis research center. VRVis is Austria's leading research institution in the field of Visual Computing. With more than 70 employees, VRVis is engaged in innovative research and development projects in cooperation with industrial companies and universities.

Since 2005, Eduard is adjunct professor of computer science at the University of Bergen, Norway, where he has a long-standing collaboration with the internationally successful visualization group there. He co-authored more than 280 scientific publications and acted as a reviewer for numerous conferences and journals in the field. He also has served and serves on various program and paper committees. Examples include *Computers&Graphics*, *IEEE Transactions on Visualization and Graphics*, EuroVis Conference, IEEE Visualization Conference, Eurographics Conference. He has been paper cochair of Volume Graphics 2005, IEEE Visualization 2005 and 2006, and Eurographics 2006. He has been cochair of the VisSym 1999 Symposium, the Eurographics 2011 Conference, and the EuroVis 2012 Conference. Eduard has been Chief Editor of the Journal *Computer Graphics Forum* in the period 2008-2011. He has served on the steering committee of the Eurographics Working Group on Data Visualization between 2001 and 2016, thereof heading the committee in the period 2011-2016.

He became a fellow of the Eurographics Association in 2009 for building up one of the strongest visualization research groups in Europe. He is the recipient of the Eurographics 2015 Outstanding Technical Contributions Award. Eduard is head of the working group on computer graphics of the Austrian Computer Society and member of IEEE Computer Society, ACM (Association of Computing Machinery), GI (Gesellschaft für Informatik), OCG (Austrian Computer Society).

In recent years, Eduard has been working in the areas of comparative medical visualization, multi-scale visualization, biomolecular visual analysis, visualization of nanostructures, visual analysis of parameter spaces, visual data science, and guided navigation. He has secured a substantial amount of competitive research funding for basic research, applied research, and company-driven research. He is the co-holder of seven patents. Eduard has published widely in the visualization field with, for example, more than 50 articles in the *IEEE Transactions on Visualization and Computer Graphics* Journal and more than 30 articles in the *Computer Graphics Forum* Journal. He has given over 140 scientific talks. He has supervised approximately 100 Master students in the area of computer graphics and visual computing. Eduard graduated 40 PhD students, where a sizable number of his former PhD students have already established successful research groups in the area of visualization on their own.

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