

The 2015 Visualization Technical Achievement Award

Tamara Munzner

The 2015 Visualization Technical Achievement Award goes to Tamara Munzner in recognition of foundational research that has produced a scientific basis for principles and design choices for visualization. The IEEE Visualization & Graphics Technical Community (VGTC) is pleased to award Tamara Munzner the 2015 Visualization Technical Achievement Award.

BIOGRAPHY

Tamara Munzner is a full professor at the University of British Columbia Department of Computer Science, where she has been since 2002. She was a research scientist from 2000 to 2002 at the Compaq Systems Research Center (the former DEC SRC). She earned her PhD from Stanford between 1995 and 2000, working with Pat Hanrahan. She holds a BS from Stanford from 1991, the year she first attended VIS.

From 1991 to 1995, Tamara was a technical staff member at The Geometry Center, based at the University of Minnesota. She was one of the architects and implementors of Geomview, the Center's public domain interactive 3D visualization system that supported hyperbolic and spherical geometry in addition to Euclidean geometry. She was co-director and one of the animators of two videos that brought concepts from the cutting edge of geometric topology research to a general audience. The 11-minute "The Shape of Space" video, shown at the SIGGRAPH 95 Electronic Theater and the Prix Pixel Imagina, develops the concept of spaces that are finite but have no boundaries. "Outside In" is a 22-minute video on turning a sphere inside out, and an 8-minute excerpt was shown at the SIGGRAPH 94 Electronic Theater. It was featured on the cover of Scientific American and won awards at NICOGRAPH, the London Effects and Animation Festival, Prix Pixel Imagina, and Prix Ars Electronica.

Tamara's current research interests include the development, evaluation, and characterization of visualization systems and techniques from both problem-driven and technique-driven perspectives. In problem-driven work, known as design studies, the focus is on designing systems to solve specific needs for a target group of real-world users. Tamara has worked on problem-driven visualization in a broad range of application domains, including genomics, evolutionary biology, fisheries management, environmental sustainability, large-scale system administration, web log analysis, networking, computational linguistics, data mining, and journalism. Her technique-driven interests include graph drawing and dimensionality reduction, with an emphasis on scalable algorithms. Her evaluation interests include both controlled experiments in a laboratory setting and qualitative studies in the field.

She has a strong interest in the theoretical foundations of visualization, with a series of publications that describe



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and prescribe models and methods for visualization design and the research process itself, including a nested model of design and validation and methodology for design studies. Her 2014 book *Visualization Analysis and Design* provides a systematic, comprehensive framework for thinking about visualization in terms of principles and design choices. It features a unified approach encompassing information visualization techniques for the abstract data of tables and networks, scientific visualization techniques for spatial data, and visual analytics techniques for interweaving data transformation and analysis with interactive visual exploration.

Tamara has published over 65 papers and chapters, with 20 at InfoVis, 3 at VAST, 1 at SciVis, and others at many venues including TVCG, EuroVis, SIGGRAPH, CHI, Graph Drawing, Information Visualization, and CG&A. She has given over 150 talks, and supervised over 30 students and postdocs. She and her group have released over 20 software packages as open source. She has consulted for or collaborated with many companies including Agilent, AT&T Labs, Google, Microsoft, Silicon Graphics, and early-stage startups.

Tamara has helped to organize InfoVis in roles ranging from webmaster to inaugural posters chair to papers chair. She is currently chair of the InfoVis Steering Committee, chair of the VIS Executive Committee, and a member of the VGTC Executive Committee. She was a founding member of the BioVis Steering Committee. She has been papers chair of EuroVis, and co-authored the NIH/NSF Visualization Research Challenges Report.

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.