

# The 2008 Visualization Career Award

## Lawrence J. Rosenblum

The 2008 Visualization Career Award goes to Lawrence (Larry) Rosenblum, in recognition of early technical contributions and unselfish work to nurture and sustain the field of visualization.

In the 1980s and early 1990s Larry developed visualization techniques that produced scientific advances in physical oceanography, ocean acoustics, ocean geophysics, and ocean engineering. He also initiated numerous activities to develop visualization as a recognized research field. Subsequent research by his group has advanced VR/AR, graphics, and visual analytics while he has continued to perform significant service to organizations and conferences in visualization and VR/AR. As a Program Officer at NSF and ONR, Larry developed new visualization research programs. For his outstanding contributions in research and in governmental program development, and for his pioneering work to nurture and sustain the field of visualization, the IEEE VGTC is pleased to award Larry Rosenblum the 2008 Visualization Career Award.



**Lawrence Rosenblum**  
Award Recipient 2008

## BIOGRAPHY

Larry Rosenblum is Director of the Virtual Reality Laboratory at the U.S. Naval Research Laboratory (NRL). He is currently detailed to the U.S. National Science Foundation (NSF), where he is Program Director for Graphics and Visualization. Majoring in Mathematics, he received his BA from Queens College (CUNY) and his MS and PhD (in Number Theory) from The Ohio State University. His introduction to visualization came when he used his wife's molecular modeling kit to visualize complex surfaces.

Larry has worked at NRL for the last thirty years, except for two assignments elsewhere. While working alongside NRL's scientists, he became convinced that many ocean science problems were actually visualization-limited. He took a graduate course in computer graphics from Jim Foley at GWU in 1981 and then set out to apply visualization to scientific data. In a sequence of papers in *J Geophysical Research*, Larry and George Marmorino used visualization to demonstrate a longstanding conjecture about ocean "fine-structure", to understand how it arises, and to statistically categorize it. Larry also animated physical oceanography simulations to gain new knowledge (e.g., Double Diffusive Convection Saltfingering, SIGGRAPH Video Review).

Subsequently, Larry and Behzad Kamgar-Parsi applied volume graphics and image processing to sonar data and demonstrated that high-resolution sonar imaging was possible, leading to new sonar systems. Larry's visualization research also impacted ocean geophysics, matched-field acoustic processing, and bathymetric mapping.

Recognizing that an important new field was coalescing, Larry conceived and co-founded the IEEE Visualization Conference. While serving as Liaison Scientist for Computer Science at the Office of Naval Research (ONR) European Office (1992-1994), he provided electronic reports on European activity, several of which were published in SIGGRAPH's *Computer Graphics*. During this period he also served as lead editor on the book *Scientific Visualization: Advances & Challenges*, which helped define the field

and was used in many of the early visualization courses in academia.

Returning to NRL, Larry focused primarily on virtual reality research, including seminal work in U.S. Responsive Workbench technology with encouragement from Wolfgang Krueger, and on augmented reality (AR) systems research. His group's research into uncertainty visualization produced interesting results (*CACM* Aug. 2004 cover), in part due to the availability of data from a large scientific experiment to quantify underwater uncertainty.

Larry also served as a Program Officer at ONR and NSF. At ONR, he formulated new research programs in volumetric modeling (e.g., volume graphics, level sets, tetrahedral modeling) and in augmented reality. At NSF, Larry worked with Jim Thomas to develop a jointly funded DHS/NSF program that is utilizing mathematics and computational science to place a firm scientific base under visual analytics data issues.

Larry has published over 80 technical articles. His work has appeared on The Learning Channel and CNN Headline News and in such media as the *NYT Science Times*, *MSNBC*, and *Popular Science*. He has served on several editorial boards including *IEEE TVCG* and *IEEE CG&A*, where he initiated and edited the *Visualization Blackboard* and the *Projects in VR Departments*. He has a long history of significant service to numerous organizations and conferences in visualization and VR. A Senior Member of the IEEE, Larry has received the IEEE Meritorious Service Award, the IEEE Outstanding Contribution Award, the NRL Alan Berman Research Publication Award, and a DHS/NVAC Award.

## AWARD INFORMATION

The IEEE VGTC Visualization Career Award was established in 2004. It is given every year to an individual to honor that person's lifetime contribution to visualization. VGTC members may nominate individuals for the Visualization Career Award by contacting the awards chair, Bill Lorensen, at <http://tab.computer.org/vgtc/>.