

# The 2005 Visualization Career Award

## Arie Kaufman

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The 2005 Visualization Career Award goes to Arie Kaufman, Stony Brook University, in recognition of his seminal work in the theory and practice of volume visualization.

Arie is one of the founders and a most prolific researcher in the area of volume visualization with seminal achievements in volume visualization and volume graphics theory, algorithms, software, hardware, systems, and numerous applications. With this Visualization Career Award, the IEEE VGTC is pleased to recognize Arie Kaufman's contributions as a pioneer, an innovator, and an inspiring leader for the visualization community.



### Arie Kaufman

Stony Brook University

Award Recipient 2005

### BIOGRAPHY

Arie Kaufman is a Distinguished Professor and Chair of the Computer Science Department, the Director of the Center for Visual Computing (CVC), and a Distinguished Professor of Radiology at Stony Brook University, the State University of New York at Stony Brook. He received a BS in Mathematics and Physics from the Hebrew University of Jerusalem, Israel, in 1969, an MS in Computer Science from the Weizmann Institute of Science, Rehovot, Israel, in 1973, and a PhD in Computer Science from the Ben-Gurion University, Israel, in 1977.

Arie joined the faculty at Stony Brook University in 1985 and was appointed CVC Director in 1996 and Chair in 1999. He also held academic posts at the Hebrew University (1977-78), Florida International University (1978-81), Tel-Aviv University (1981-82), Ben-Gurion University (1981-85), and Columbia University (1992-93).

Arie has conducted research for over 35 years in visualization, graphics, virtual reality, user interfaces, multimedia and their applications, especially in biomedicine. He has published extensively totaling in excess of 270 refereed papers, books, and book chapters, more than 230 conference presentations and other manuscripts, and has been awarded/filed more than thirty patents, most of which have been licensed. He has been a principal/co-principal investigator on more than ninety research grants. His work has been featured in numerous media communications, including Science, New York Times, U.S. News & World Report, Business Week, Wall Street Journal, Saturday Evening Post, PC Week, Good Morning America, Fox TV, and Newsday.

Arie has made significant research contributions in visualization and graphics, including: pioneering and leading the field of volume visualization; compiling in 1991 the first manuscript on Volume Visualization; developing VolVis, a comprehensive volume visualization software with an installed base of over 3,500; founding and pioneering the area of volume graphics, voxel-based computer graphics; developing the Cube hardware architectures for real-time volume rendering, which was the basis for the VolumePro board; developing 3D virtual colonoscopy, a technique for

colon cancer screening; developing real-time simulation and visualization of amorphous phenomena, including airborne dispersion for urban security.

Arie was internationally recognized for his contributions to visualization and graphics. He was elected to the highest level of a Fellow of IEEE "for contributions to and leadership in visualization and computer graphics." He also received the 1995 IEEE Outstanding Contribution Award, 1998 ACM Service Award, 1999 IEEE Computer Society's Meritorious Service Award, 2002 State of New York Entrepreneur Award, 2004 IEEE Harold Wheeler Award, and 2005 State of New York Innovative Research Award. He is a member of the European Academy of Sciences.

Arie's service to the visualization/graphics community has been very significant. He was the founding Editor-in-Chief of *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 1995-1998. He has been the co-founder, papers/program co-chair, and member of the steering committee of IEEE Visualization Conference series; co-founder/chair of Volume Graphics Workshop series; co-chair for Eurographics/SIGGRAPH Graphics Hardware Workshops, and papers/program co-chair for ACM Volume Visualization Symposia. He previously chaired and is currently a director of IEEE CS Visualization and Graphics Technical Committee (VGTC). He has served on over 100 program or technical committees.

### 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, John Staudhammer, at <http://tab.computer.org/vgtc/>.