

IEEE VGTC Virtual Reality Technical Achievement Award 2007

The 2007 Virtual Reality Technical Achievement Award goes jointly to Carolina Cruz-Neira, Thomas A. DeFanti, and Daniel J. Sandin in recognition of the development of the CAVE Automatic Virtual Environment. The introduction of the CAVE was a seminal event in the history of virtual reality, computer graphics, and visualization that has had a profound impact on the development of both the theory and application of virtual environments. The IEEE VGTC is pleased to award Carolina, Tom and Dan the 2007 Virtual Reality Technical Achievement Award.



Carolina Cruz-Neira

Louisiana Immersive Technologies Enterprise

IEEE VGTC Virtual Reality
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BIOGRAPHY

Dr. Carolina Cruz-Neira is the Executive Director and Chief Scientist of the Louisiana Immersive Technologies Enterprise (LITE). She is also an Endowed Chair in the College of Engineering at the University of Louisiana at Lafayette.

Until 2005 she was the Stanley Chair in Interdisciplinary Engineering, and the Associate Director and co-founder of the Virtual Reality Applications Center at Iowa State University (ISU). In 2002, she co-founded and co-directed the Human-Computer Interaction graduate program at ISU. Dr. Cruz-Neira's work in VR started with her Ph.D. dissertation: the design of the CAVE™ Virtual Reality Environment, the CAVE™ Library software specifications and implementation, and preliminary research on CAVE™-Supercomputing integration. She shares the recognition of the Invention of the CAVE with Tom DeFanti and Dan Sandin. Since then, her research has been driven by providing applicability and simplicity to VR technology focusing on software engineering for VR, applications of VR technology and usability studies of virtual environments. She spearheaded the open-source VR API movement with the development of VR Juggler, and has been an advocate of best practices on how to build and run VR facilities and applications. Many of her former students are now doing leading work in VR at places such as Purdue University, Navtech, Nintendo, EA, Deere & Company, Boeing, Sony Pictures Imageworks, and Argonne National Laboratory.

Beyond her academic career, Dr. Cruz is an entrepreneur. She co-founded Infiscape Corporation, a services company in immersive applications and high-end interactive graphics. She serves on many advisory boards, including Sensics Inc and Micoy, and has performed corporate consulting in many companies around the world. Business Week magazine named her in 1997 a "rising research star" in the new generation of computer science pioneers. She received the 2000 Iowa State Foundation Award for Early Achievement in Research. In June 2001 she received the Boeing A.D. Welliver Award. In 2002 she was named Eminent Engineer by the Tau Beta Pi Honors Society. In 2003 she was inducted as a Computer Graphics Pioneer by the ACM SIGGRAPH organization.

Dr. Cruz has a PhD in Electrical Engineering and Computer Science (EECS) from the University of Illinois at Chicago (UIC) (1995) and a Master's degree in EECS at UIC (1991). She graduated Cum Laude in Systems Engineering at the Universidad Metropolitana at Caracas, Venezuela in 1987.

AWARD INFORMATION

The IEEE VGTC Virtual Reality Technical Achievement Award was established in 2005. It is given every year to recognize an individual for a seminal technical achievement in virtual & augmented reality. VGTC members may nominate individuals for the Virtual Reality Technical Achievement Award by contacting the 2007 awards chair for virtual reality, Larry F. Hodges, at vgtc-vr-awards@computer.org.

IEEE VGTC Virtual Reality Technical Achievement Award 2007 (cont)

BIOGRAPHY

Thomas A. DeFanti, PhD, at the University of California, San Diego, is a research scientist at the California Institute for Telecommunications and Information Technology (Calit2). At the University of Illinois at Chicago, DeFanti is director of the Electronic Visualization Laboratory (EVL), a distinguished professor emeritus in the department of Computer Science, and the director of the Software Technologies Research Center. Currently, he is principal investigator of the NSF International Research Network Connections Program TransLight/StarLight award to UIC that provides a persistent 10 Gigabit networking infrastructure between the USA and Europe, and he is co-principal investigator of the NSF OptIPuter cooperative agreement with UCSD.

DeFanti is an internationally recognized expert in computer graphics since the early 1970s. DeFanti has amassed a number of credits, including: use of EVL hardware and software for the computer animation produced for the 1977 “Star Wars” movie; contributor and co-editor of the 1987 National Science Foundation-sponsored report “Visualization in Scientific Computing;” recipient of the 1988 ACM Outstanding Contribution Award; appointed an ACM Fellow in 1994; and appointed one of several USA technical advisors to the G7 GIBN activity in 1995. He also shares recognition with Dan Sandin and Carolina Cruz-Neira for inventing the CAVE virtual reality theater in 1991.

Striving for a more than a decade to connect high-resolution visualization and virtual reality devices over long distances, DeFanti has collaborated with Maxine Brown to lead state, national and international teams to build the most advanced production-quality networks available to scientists, with major NSF funding. He is a founding member of GLIF, the Global Lambda Integrated Facility, a global group that manages international switched wavelength networks for research and education. In the USA, DeFanti established the 10 Gigabit Ethernet CAVEwave research network between EVL/StarLight, Seattle/Pacific Northwest GigaPop, and UCSD/Calit2 for OptIPuter and other national/international research uses, which is a model for future high-end science and engineering collaboration infrastructure.

DeFanti has also been active in the ACM SIGGRAPH organization and in the ACM/IEEE Supercomputing (SC) conferences. Current and past activities include: secretary of SIGGRAPH (1977-1981); co-chair of the SIGGRAPH 79 conference; chair of the 11,000-member SIGGRAPH organization (1981-1985); co-chair of the 1998, 2000, 2002, and 2005 iGrid conferences, and continuing editor of the “SIGGRAPH Video Review” video publication, which he founded in 1979.



Thomas A. DeFanti

University of California, San Diego

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BIOGRAPHY

Daniel J. Sandin is an internationally recognized pioneer of electronic art and visualization. He is director emeritus of the Electronic Visualization Lab (EVL) and a professor emeritus in the School of Art and Design at the University of Illinois at Chicago (UIC). Currently Sandin is a researcher at EVL at UIC and at CALIT2, part of the University of California at San Diego. As an artist, he has exhibited worldwide, and has received grants in support of his work from the Rockefeller Foundation, the Guggenheim Foundation, the National Science Foundation and the National Endowment for the Arts. His video animation “Spiral PTL” is in the inaugural collection of video art at the Museum of Modern Art in New York. In 1969, Sandin developed a computer-controlled light and sound environment called “Glow Flow” at the Smithsonian Institution and was invited to join the art faculty at the University of Illinois the same year. By 1973, he had developed the Sandin Image Processor, a highly-programmable analog computer for processing video images in real time. He then worked with Tom DeFanti to combine the Image Processor with real-time computer graphics and performed visual concerts, the Electronic Visualization Events, with synthesized musical accompaniment. In 1991, Sandin, DeFanti and Carolina Cruz-Neira developed the CAVE virtual reality (VR) theater.

In recent years, Sandin has been concentrating on the creation of network based tele-collaborative VR art works which involve video camera image materials, rich human interaction and mathematical systems. Sandin’s latest VR display system is Varrier, a large scale, very high resolution head tracked barrier-strip autostereoscopic display system that produces a VR immersive experience without requiring the user to wear any glasses or trackers. In its largest form it is a cylindrical array of 65 LCD panels.



Daniel J. Sandin

Electronic Visualization Lab

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