

# Awards

## IEEE VGTC Virtual Reality Career Award 2010

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The 2010 Virtual Reality Career Award goes to Frederick P. Brooks, Jr., The University of North Carolina at Chapel Hill, for his lifetime contributions to virtual reality research and practice.

For over three decades Fred Brooks has led a laboratory that fosters scientific inquiry and technical advances in virtual reality to provide effective solutions to real user problems. The demands of molecular modeling and docking applications led to many innovations in 3D interaction, especially in developing and using haptic feedback. His recent work has contributed to our understanding of design tradeoffs in immersive virtual reality systems that effect the quality of the user's experience.

The IEEE VGTC is pleased to award Fred Brooks the 2010 Virtual Reality Career Award.

### BIOGRAPHY

Brooks is Kenan Professor of Computer Science at the University of North Carolina at Chapel Hill. Born in 1931 at Chapel Hill, he earned an A.B. in Physics from Duke. His Harvard Ph.D. was under Howard Aiken, architect of the first American programmable computer.

He's been crazy about computers since his teenage years. In the '50's, he was an architect of IBM's Stretch and Harvest supercomputers, and coined the term computer architect. In the '60's, he was IBM's Corporate Project Manager for the System/360 development, including the System/360 computer family ("mainframe") hardware, and the Operating System/360 software.

Brooks founded the Department of Computer Science at UNC-CH in 1964 and chaired it for 20 years. Its new building addition is named for him. His best-known books are *The Mythical Man-Month: Essays on Software Engineering*, (1975, 1995) and *Computer Architecture: Concepts and Evolution* (with G.A. Blaauw, 1997). *The Design of Design: Essays from a Computer Scientist* appears in March, 2010.

His team's research at Carolina has been in interactive computer graphics: molecular graphics, 1965-1999; scientific visualization and manipulation, 1965-present; and virtual environments, 1970-present in collaboration with Henry Fuchs, Dinesh Manocha, and Mary C. Whitton. The team has done extensive study of both active and passive haptic displays. They developed a quite compelling "pit" demo; and for some years have used it to study quantitatively the relative effectiveness of various illusion factors on presence measures. (For example, latency matters a lot; photorealism very little.) Driving applications have been design of structures and submarines, scientific visualization, military training, and rehabilitation of patients with asymmetric gaits. He has advised 37 Ph.D. graduates.

Dr. Brooks has received the National Medal of Technology, and the Turing Award of the ACM. He is a member of the National Academy of Sciences, the National Academy of Engineering, the Royal Netherlands Academy



**Frederick P. Brooks, Jr.**  
University of North Carolina at  
Chapel Hill, USA

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of Arts and Sciences, and the (British) Royal Academy of Engineering. He has served on the National Science Board and the Defense Science Board.

He and Nancy are faculty advisors for the UNC graduate student chapter of InterVarsity Christian Fellowship. They have three children and nine grandchildren.

### AWARD INFORMATION

The IEEE VGTC Virtual Reality Career Award was established in 2005. It is given every year to an individual to honor that person's lifetime contribution to virtual & augmented reality. VGTC members may nominate individuals for the Virtual Reality Career Award by contacting the 2010 awards chair for virtual reality, Larry F. Hodges, at [vgtc-vr-awards@vgtc.org](mailto:vgtc-vr-awards@vgtc.org).