Distinguished Lecture Series

September 26, 2002
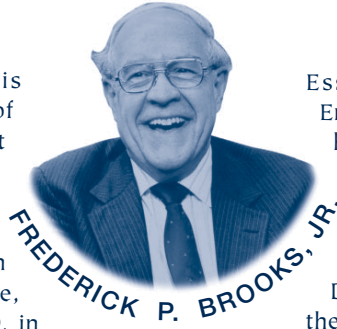
Frederick P. Brooks, Jr.
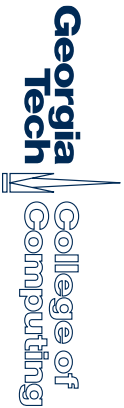
Georgia Tech | College of Computing

Fred Brooks is Kenan Professor of Computer Science at the University of North Carolina at Chapel Hill. He earned a B.A. in physics from Duke, and S.M. and Ph.D. in computer science at Harvard University under Howard Aiken.

Dr. Brooks joined IBM upon graduation and was one of the architects of the IBM Stretch and Harvest computers. From 1961-65 he was Corporate Project Manager for the System/360, including development of the System/360 computer family hardware, and the Operating System/360 software. Brooks shares the 1985 National Medal of Technology with Bob Evans and Erich Bloch.

Dr. Brooks joined UNC in 1964, where he founded the Department of Computer Science and chaired it for its first 20 years. His research has been in computer architecture, software engineering, and interactive 3-D computer graphics ("virtual reality"). His best-known book is The Mythical Man-Month:

Essays on Software Engineering (1975, 1995); his latest is Blaauw and Brooks, Computer Architecture: Concepts and Evolution, (1997).

Dr. Brooks has served on the National Science Board and the Defense Science Board. He is a member of the National Academy of Engineering, National Academy of Sciences, the Royal Academy of Engineering (UK), the Royal Netherlands Academy of Arts and Sciences, and the American Academy of Arts and Sciences. His career work has been recognized by the A.M. Turing Award of the Association for Computing Machinery, the Bower Science Award of the Franklin Institute, and the John von Neumann Medal of the Institute of Electrical and Electronic Engineers.

Dr. Brooks became a Christian at age 31. He and his wife are faculty advisors for a graduate-student chapter of InterVarsity Christian Fellowship.

http://www.cs.unc.edu/~brooks/

The College of Computing cordially invites you to attend the first lecture of the 2002-2003 College of Computing Distinguished Lecture Series

FREDERICK P. BROOKS, JR.
Kenan Professor of Computer Science
University of North Carolina at Chapel Hill

September 26, 2002
3 - 4 p.m.
117 Student Services Building
Reception immediately following the lecture.

"The Design of Design"
Frederick P. Brooks, Jr.

Abstract

Designing computers, graphics hardware, programming languages, operating systems, and big applications systems seems to have a lot in common, across those diverse media. These same commonalities also occur in the processes of designing buildings, and even organizations. In disciplines such as building architecture, mechanical engineering, and industrial design, there is currently a lot of study of the design process, and 25 years of research literature. Perhaps computer scientists, and indeed all designers, can learn from these older design disciplines.

Four major trends have changed design substantially since WWII, and strikingly since the 19th century:
- design by designers who could not themselves make the designed object,
- design by teams, sometimes geographically dispersed,
- the capture of designs in computer models, besides or instead of drawings, and
- the promulgation of formal design models and processes.

The lecture essays some analysis of these trends. Analysis inevitably generates opinions on how design should be done, and how it should be taught.