

Biographical Sketch

George H. Heilmeier is Chairman Emeritus of Telcordia Technologies (formerly Bellcore), a leading provider of communications software and professional services. Prior to announcing his retirement in November 1997, he was Chairman and Chief Executive Officer. Dr. Heilmeier joined Bellcore in March 1991 as President and CEO, and he transformed the company from a narrowly focused consortium to a global commercial business. Dr. Heilmeier, a native of Philadelphia, holds a B.S. in electrical engineering from the University of Pennsylvania and M.A., M.S.E., and Ph.D. degrees in solid-state electronics from Princeton University. He has also been awarded honorary degrees by Stevens Institute and the Israel Institute of Technology (The Technion).

He joined RCA Laboratories in 1958, working on various electronic and electro-optic devices, and became Head of Solid State Device Research in 1966. His work with electro-optic effects in liquid crystals led to the first liquid-crystal displays for calculators, watches, computers and instrumentation. In 1968, that effort earned him RCA's prestigious David Sarnoff Award, the IR-100 Award for the most outstanding technical product of the year, and the Eta Kappa Nu Award as the Outstanding Young Electrical Engineer in the U. S.

In 1970, he was chosen as a White House Fellow to work on long-range research and development planning and technology assessment as a Special Assistant to the Secretary of Defense. He became Director of the Defense Advanced Research Projects Agency (DARPA) in 1975 and initiated major efforts in stealth aircraft, space-based lasers and reconnaissance systems, infrared technology, and artificial intelligence. During his tenure at DARPA, he was twice awarded the Department of Defense Distinguished Civilian Service Medal, the highest civilian award given by the Department and one that is rarely given twice. Dr. Heilmeier left government in late 1977 to join Texas Instruments as Vice President responsible for R&D in petroleum exploration, systems technology, microelectronics, and software for TI's equipment businesses.

He has received numerous awards, including the prestigious Japanese Communications and Computers Prize (1990) and three major IEEE awards. In 1991, President Bush awarded him the National Medal of Science for contributions to national security and competitiveness. He received the National Academy of Engineering Founders Award in 1992. In 1996, he received the John Scott Award for Scientific Achievements from the City of Philadelphia for his pioneering work in the development of liquid-crystal displays. Previous winners of the Scott Award included Albert Einstein, G. Marconi, Madame Curie, the Wright Brothers, and Thomas Edison.

Dr. Heilmeier is a member of the Defense Science Board, and the National Security Agency Scientific Advisory Board. He serves on the Boards of Directors for a number of companies, and is a member of the National Academy of Engineering, the General Motors Science Advisory Committee, the MIT Visiting Committee, the Board of Overseers of the School of Engineering and Applied Science of the University of Pennsylvania, and he is a Fellow of the IEEE and the American Academy of Arts and Sciences.



Georgia Institute of Technology

The George W. Woodruff School of Mechanical Engineering

Georgia Institute of Technology

Atlanta, Georgia 30332-0405

Phone: (404) 894-3200

E-mail: menehp.info@me.gatech.edu

Web: <http://www.me.gatech.edu>

The George W. Woodruff School of Mechanical Engineering Annual Distinguished Lecture

From POTS to PANS.com

***Transitions in the World of Telecommunications
for the Late 1990s and Beyond***

Dr. George H. Heilmeier

Chairman Emeritus
Telcordia Technologies
(formerly Bellcore)

Tuesday, April 20, 1999

3:30 p.m.

Van Leer (EE) Auditorium
Georgia Institute of Technology

Synopsis

Perhaps no industry has undergone so many changes, on so many fronts, as rapidly as the telecommunications industry. The transition from plain old telephony service (POTS) to pretty awesome new services (PANS) is being driven by three forcing functions: technology, customers, and competition and regulations. We will explore and contrast the industry, networks, and services of yesterday and today with those of tomorrow and with apologies to David Letterman, we will give our Top 10 list of challenges from the standpoint of relative importance and difficulties. Look for a few *surprises* here.

The Internet plays a major role, and we will explore the business of the next Internet. Amidst all of the stock market furor, we will explore what to look for in DELL-like successes beyond the current stock market hysteria. We will discuss the necessary morphing of today's Internet service providers (ISP's) into enhanced service providers (ESP's) and the exciting opportunities in concierge-like customer management. But before we celebrate the business successes of the next Internet, we will also take a look at the speed bumps along the way.

There can be no question that the convergence of computing, telecommunications, and information/entertainment technology has brought us another technology driven golden age as did electric power, among others, in the past. When will the information revolution reach its peak and why?

Finally, with a future filled with so many transitions, challenges, and opportunities driven by technological convergence, how do we prepare ourselves? What does all this mean for the education of engineers and the practice of engineering? What will change? What will remain the same? Perhaps Wayne Gretzkey summed it up for all of us when he remarked, "Statistically, 100% of the shots you don't take ... don't go in."

Program

Introduction
Dr. Ward O. Winer
Woodruff School Chair

Distinguished Lecturer
Dr. George H. Heilmeier
Chairman Emeritus
Telcordia Technologies

Question and
Answer Session

Presentation of the
Woodruff Medallion
Dr. Ward O. Winer

Reception
Joseph M. Petit
Microelectronics Research
Center Courtyard

The George W. Woodruff School of Mechanical Engineering Annual Distinguished Lecture was established in 1990 to honor an engineer who has made an outstanding contribution to society and to provide a forum for that person to address the Georgia Tech community. The lecture is made possible by an endowment established for the Woodruff School of Mechanical Engineering by the late George W. Woodruff. Thus, the occasion is also an opportunity to remember and honor Mr. Woodruff's own contributions as a distinguished alumnus and as a benevolent and generous citizen of Atlanta and the State of Georgia.

