

The Charles Stark Draper Prize



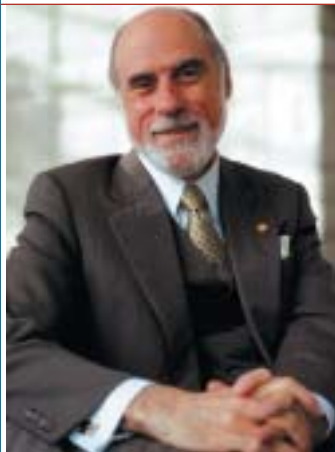
The Charles Stark Draper Prize was established in 1988 to honor the memory of Dr. Charles Stark Draper, "the father of inertial navigation." Awarded annually, the Prize was instituted by the National Academy of Engineering and endowed by Draper Laboratory, and is recognized as one of the world's preeminent awards for engineering achievement. It honors individuals, who like Dr. Draper, developed a unique concept and put it into practice in ways that made significant contributions to the advancement of science and technology, as well as the welfare and freedom of society.

For information on the nomination process, contact the Public Affairs Office at the National Academy of Engineering at (202) 334-1237.

The 2001 Draper Prize

The 2001 Draper Prize was presented to Vinton Cerf, Robert Kahn, Leonard Kleinrock, and Lawrence Roberts on February 20 during a ceremony in Washington, DC. Honored for their individual contributions to the development of the Internet, they each received a gold medal and citation and will share a \$500,000 honorarium.

Originally developed as a tool to link research computers together, the Internet—perhaps more than any other invention in the 20th century—has revolutionized the way people access information, conduct business, and communicate with one another. As National Academy of Engineering President and Draper Board Member, William A. Wulf remarked, "It is an achievement that deservedly joins the ranks of previous Draper Prize honors, such as the semiconductor microchip, the jet engine, satellite technology, and fiber optics."



Vinton Cerf

Dr. Cerf is Senior Vice President of Internet Architecture and Technology for WorldCom, which designs advanced Internet frameworks to deliver data, information, voice, and video services for business and consumer use. He is a co-inventor of the TCP/IP protocols and the architecture of the Internet. While Vice President of MCI Digital Information Services (1982-1986), he directed the development of MCI Mail, the first commercial email service to be connected to the Internet. At DARPA (1976-1982), he played a significant role in developing Internet and Internet-related data packet and security technologies. Before rejoining MCI (1994), he was Vice President of the Corporation for National Research Initiatives (CNRI). Dr. Cerf was the founding President of the Internet Society (1992-1995) and served as Chairman of the Board (1999). He was the founding Chairman of the Internet Societal Task Force and is an honorary Chairman of the IPv6 Forum. He has been a member of the U.S. Presidential Information Technology Advisory Committee since 1997, and now serves as a Principal for the Global Internet Project and as Chairman of the Internet Corporation for Assigned Names and Numbers.

Dr. Cerf holds a BS in Mathematics from Stanford University and MS and PhD degrees, both in Computer Science, from the University of California, Los Angeles (UCLA). He also holds numerous honorary doctorates worldwide.

Photo Credit: John Troha, Black Star, Alexandria, VA



Robert Kahn

Dr. Robert Kahn is Chairman, CEO, and President of CNRI, which he founded in 1986 as a nonprofit organization to provide leadership and funding for research and development of the National Information Infrastructure. He has been a member of the technical staff at Bell Laboratories, Murray Hill, NJ, and was an Assistant Professor of Electrical Engineering at MIT. He took a leave of absence from MIT to join Bolt, Beranek, and Newman (BBN), where he was responsible for the system design of the ARPANET, the first packet switching network. He joined DARPA (1972), and there he initiated the U.S. government's billion dollar Strategic Computing Program, the largest computer research and development program undertaken by the federal government. Dr. Kahn conceived the idea of open-architecture networking. He is a co-inventor of the TCP/IP protocols, and was responsible for initiating DARPA's Internet Program. He coined the term National Information Infrastructure (NII) in the mid-80s, later known as "The Information Superhighway."

Dr. Kahn holds a BS in Electrical Engineering from City College of New York (CCNY), and MS and PhD degrees from Princeton University.

Photo Credit: John Troha, Black Star, Alexandria, VA



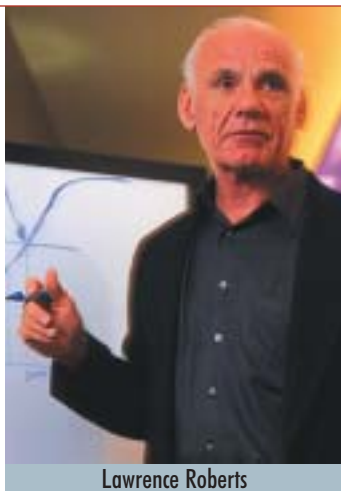


Leonard Kleinrock

Dr. Kleinrock developed the basic principles of packet switching, the technology underpinning the Internet, while a graduate student at MIT—a decade before his host computer at UCLA became the first node to connect to the Internet (September 1969). He is currently a Professor of Computer Science at UCLA, and is CEO, Chairman, and founder of Nomadix, Incorporated, an Internet infrastructure company. He is also chairman of TTI/Vanguard, a technology forum dedicated to emerging technologies, and was a founder and the first President of Linkabit Corporation. He has published over 225 papers and 6 books on a variety of subjects, including packet switching networks, packet radio networks, local area networks, broadband networks, and gigabit networks. He has recently launched the field of nomadic computing, a technology to support users as soon as they leave their desktop environments.

Dr. Kleinrock received a BS in Electrical Engineering from CCNY and MS and PhD degrees in Electrical Engineering from MIT. He also received honorary Doctorate of Science degrees from CCNY and the University of Massachusetts, Amherst.

Photo Credit: Keith Skelton, Black Star, Los Angeles, CA



Lawrence Roberts

Dr. Lawrence Roberts is Chief Technology Officer of Caspian Networks, an Internet infrastructure company. He led the team that designed and developed the ARPANET, the world's first major computer packet network. Influenced by Dr. Leonard Kleinrock's theoretical packet switching work, Dr. Roberts translated Dr. Kleinrock's novel theory into a practical, working network. At the time, conventional wisdom held that packet switching could never work. Dr. Roberts' team proved them wrong. This effort evolved into the modern Internet. He founded the world's first packet data communications carrier, Telenet. He was then Chairman and CEO of NetExpress (1983-1993), an electronics company specializing in packetized fax and Asynchronous Transfer Mode (ATM) equipment. As President of ATM Systems (1993-1998), he designed advanced ATM and Ethernet switches with QoS and Explicit Rate flow control. He proposed Explicit Rate to the ATM Forum (1994) and spearheaded its development into ATM Forum recommendation TM 4.0 (1996). He also led the development of Cells in Frames, a protocol for ATM over the Ethernet.

Dr. Roberts holds BS, MS, and PhD degrees, all from MIT.

Photo Credit: David Toerge, Black Star, Palo Alto, CA

Previous Recipients



- 1999: Charles Kao, Robert Maurer, and John MacChesney for spearheading advances in fiber-optic technology.
- 1997: Vladimir Haensel for the development of the chemical engineering process of "Platforming" (short for Platinum Reforming), which was a platinum-based catalyst to efficiently convert petroleum into high-performance, cleaner-burning fuel.
- 1995: John R. Pierce and Harold A. Rosen for their development of communication satellite technology.
- 1993: John Backus for his development of FORTRAN, the first widely used, general-purpose, high-level computer language.
- 1991: Sir Frank Whittle and Hans J.P. von Ohain for their independent development of the turbojet engine.
- 1989: Jack S. Kilby and Robert N. Noyce for their independent development of the monolithic integrated circuit.

Draper Prize Recipient Wins Nobel Prize

Jack Kilby shares the 2000 Nobel Prize in Physics for his role in developing the integrated circuit, the same work for which he shared the 1989 Draper Prize with Robert Noyce, who died June 3, 1990.



Photos of Jack Kilby courtesy of Texas Instruments

