



The 2004 Charles Stark Draper Prize



ALAN C. KAY



BUTLER W. LAMPSON



ROBERT W. TAYLOR



CHARLES P. THACKER

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 that has made significant contributions to the advancement of science and technology, as well as the welfare and freedom of society.

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

The 2004 Draper Prize was presented to the inventors of the first networked personal computer at a ceremony in Washington, DC on February 24. The engineering profession’s highest honor was awarded to the team who led development of the Alto computer at Xerox’s Palo Alto Research Center (PARC).

- Alan C. Kay, Butler W. Lampson, Robert W. Taylor, and Charles P. Thacker will share the \$500,000 award, which honors engineers whose accomplishments have significantly benefited society, “for the vision, conception, and development of the principles for, and their effective integration in, the world’s first practical networked personal computers.” NAE President Wm. A. Wulf stated that “These four prize recipients were the indispensable core of an amazing group of engineering minds that redefined the nature and purpose of computing.” Their achievements have made possible today’s versatile, multipurpose PCs used in offices, schools, and homes around the world. Alto operated for the first time in April 1973.

Alan C. Kay is a Senior Fellow at Hewlett-Packard Co. and President of Viewpoints Research Institute, Inc. At PARC, he led one of several groups that developed modern workstations (and forerunners of the Macintosh), Smalltalk, the overlapping window interface, desktop publishing, the Ethernet, laser printing, and network “client-servers.”

Dr. Kay has a BA in Mathematics and Molecular Biology from the University of Colorado, MS and PhD degrees in Computer Science from the University of Utah, and an honorary doctorate from the Kungl Tekniska Hoegskolan in Stockholm.

- Butler W. Lampson is a Distinguished Engineer at Microsoft Corporation and an Adjunct Professor of Computer Science and Electrical Engineering at MIT. He was one of the designers of the SDS 940 time-sharing system, the Alto personal distribution computing system, the Xerox 9700 laser printer, the two-phase commit protocols, the Autonet LAN, and much more.

Dr. Lampson received a BA from Harvard University, a PhD in Electrical Engineering and Computer Sciences from the University of California at Berkeley, and honorary ScD degrees from the Eidgenossische Technische Hochschule, Zurich, and the University of Bologna.

- Robert W. Taylor, who ran PARC’s Computer Science Laboratory during the early days, says his team came to work with a shared vision: “the value of closely connecting people and their interests could dwarf the value of computing only for arithmetic.”

Mr. Taylor earned his BA and MA degrees from The University of Texas.

- Charles P. Thacker joined Microsoft Corporation in 1997 as director of advanced systems. Among his numerous distinctions, he served as project leader of the MAXC timesharing system and as the chief designer on the Alto computer. He is also the co-inventor of the Ethernet local area network. Looking toward the future, Thacker sees computers getting smaller and smaller “more or less as they have in cars. My wife of 40 years, who doesn’t use computers at all, says ‘the best computer is an invisible computer.’ I suspect she’s right.”

Mr. Thacker was awarded an honorary doctorate from the Swiss Federal Institute of Technology and is a distinguished alumnus of the Computer Science Department at the University of California.

Recipients of The Charles Stark Draper Prize

2003: Ivan A. Getting and Bradford W. Parkinson for their technological achievements in the development of the Global Positioning System.



2002: Robert Langer for bioengineering revolutionary medical drug delivery systems.



2001: Vinton Cerf, Robert Kahn, Leonard Klienrock, and Lawrence Roberts for their individual contributions to the development of the Internet.



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.

