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Contact:　　Virginia Gold
　　　　　　212-626-0505
　　　　　　vgold@acm.org

ACM TURING AWARD GOES TO CREATOR OF FIRST MODERN PERSONAL COMPUTER

Thacker, Founding Member of Three Major Research Labs, Linked to Tablet PC and Other Major Innovations in Computing – Past and Present

NEW YORK, March 9, 2010 – ACM, the **Association for Computing Machinery** today named Charles P. Thacker the winner of the 2009 ACM A.M. Turing Award http://awards.acm.org/2010/turing-award.cfm for his pioneering design and realization of the Alto, the first modern personal computer, and the prototype for networked personal computers. Thacker's design, which he built while at Xerox PARC (Palo Alto Research Center), reflected a new vision of a self-sufficient, networked computer on every desk, equipped with innovations that are standard in today's models. Thacker was also cited for his contributions to the Ethernet local area network, which enables multiple computers to communicate and share resources, as well as the first multiprocessor workstation, and the prototype for today's most used tablet PC, with its capabilities for direct user interaction. The Turing Award, widely considered the "Nobel Prize in Computing," is named for the British mathematician Alan M. Turing. The award carries a $250,000 prize, with financial support provided by Intel Corporation and Google Inc.

"Charles Thacker's contributions have earned him a reputation as one of the most distinguished computer systems engineers in the history of the field," said ACM President Professor Dame Wendy Hall. "His enduring achievements—from his initial innovations on the PC to his leadership in hardware development of the multiprocessor workstation to his role in developing the tablet PC—have profoundly affected the course of modern computing."

Andrew Chien, Vice President of Intel Labs and Director of Future Technologies Research at Intel Corporation said, "Charles Thacker's design of the Alto computer embodied the key elements of today's personal computers, and is at the root one of the world's most innovative industries that empowers individuals around the world. We applaud Chuck's clarity of insight, focus on simplicity, and his incredible track record of designing landmark systems that have accelerated the progress of both research and industry for decades."

"Google is pleased to join in honoring Charles Thacker for his far-reaching role in the birth of one of the most important technologies in the 20th century," said Alfred Spector, Vice President of Research and Special Initiatives at Google Inc. "His contributions made possible the style of computing

that we enjoy today, and we are proud to be a sponsor of the ACM Turing Award to encourage continued research in computer science, and the related technologies that depend on its continued advancement."

Influencing the Course of Computer History

Thacker created and collaborated on what would become the fundamental building blocks of the PC business. The Alto computer, developed in 1974, incorporated bitmap (TV-like) displays which enable modern graphical user interfaces (GUIs), including What You See Is What You Get (WYSIWYG) editors. These components have dominated computing during the last two decades. Thacker was the co-inventor of the Ethernet local area network, introduced in 1973, the "interconnection fabric" that allows multiple digital devices such as workstations, printers, scanners, file servers, and modems to communicate with each other. Today's Ethernets, which are thousands of times faster than the original version, have become the dominant local area networking technology.

At Digital Equipment Corporation's System Research Center, Thacker designed the Firefly multiprocessor workstation, an innovation that has new relevance in the current multicore world. These systems are widely used across many domains for their ability to improve productivity and create performance advantages, with applications for embedded architecture, network systems, digital signal processing, graphics, and special effects.

Thacker went on to Microsoft Research in 1997 to help establish its Microsoft Research Cambridge laboratory, where he also oversaw the design of the first prototypes on which most of today's tablet PCs are based. Described as the most significant recent advance in the PC hardware platform, they enable faster, more powerful operations and they offer fundamentally new capabilities for direct interaction with users that are fast becoming part of the mainstream of computing. After joining the Tablet PC team to help shepherd the product to market, he returned to Microsoft Research in 2005, and is currently engaged in computer architecture research at Microsoft's Silicon Valley campus.

Background

Thacker has published extensively and holds 29 patents in computer systems and networking. He is a Distinguished Alumnus of the Computer Science Department of the University of California Berkeley, where he earned a B.S. in physics. He holds an honorary doctorate from the Swiss Federal Institute of Technology (ETH) and is a Fellow of ACM and the Computer History Museum. He is also a member of the American Academy of Arts and Sciences and the U.S. National Academy of Engineering.

For the development of Alto, Thacker (with Butler Lampson and Robert Taylor) received the 1984 ACM Software System Award. In 2004, (with Lampson, Taylor, and Alan Kay) he was awarded the Charles Stark Draper prize for the development of the first networked personal computers. In 2007, he was the recipient of IEEE's John von Neumann medal.

ACM will present the 2009 A.M. Turing Award at its Awards Banquet on June 26, in San Francisco, CA.

About the ACM A.M. Turing Award
The A.M. Turing Award was named for Alan M. Turing, the British mathematician who articulated the mathematical foundation and limits of computing, and who was a key contributor to the Allied cryptanalysis of the German Enigma cipher during World War II. Since its inception in 1966, the Turing Award has honored the computer scientists and engineers who created the systems and underlying theoretical foundations that have propelled the information technology industry. Go to **http://awards.acm.org/turing** for information.

About ACM
ACM, the Association for Computing Machinery **www.acm.org,** is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.