



The Charles Stark Draper Prize



The Charles Stark Draper Prize was established in 1988 as a memorial tribute to Dr. Charles Stark Draper, "father of inertial navigation." Instituted by the National Academy of Engineering with funding provided by Draper Laboratory, the prize honors innovative engineering achievement and its reduction to practice in ways that have contributed to human welfare and freedom. Awarded biennially, the Draper Prize consists of a cash award of approximately \$450,000 and a gold medal.

Robert Hermann, chairman of the board of Draper Laboratory, announced plans in February 1998 to increase the award endowment so that the Draper Prize can be given annually starting in the year 2000. He said, "Draper Laboratory endowed the Prize in memory of its founder, Dr. Charles Stark Draper. The prize honors particularly those rare individuals who, like Dr. Draper, were able to take an idea, develop it, and put it into practice. It is fitting and appropriate that the Draper Prize double its efforts to recognize outstanding engineering." NAE President Wm. A. Wulf added, "It is our hope that by awarding the Draper Prize on an annual basis, the NAE can help improve the public's understanding of the role that engineering plays in our daily lives."

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

The 1997 Draper Prize recipient was Vladimir Haensel, inventor of "Platforming". In the late 1940s, while working for Universal Oil Products Co. (now called UOP), Haensel developed Platforming (short for platinum reforming), which uses a platinum-based catalyst to efficiently convert petroleum into high-performance, cleaner-burning fuel, eliminating the need to add lead to gasoline and cutting emissions.

The 1995 Draper Prize was awarded to Drs. John Pierce and Harold Rosen for their pioneering inventions in communications satellite technology. In the 1950s while working at Bell Laboratories, Pierce developed theories on passive (reflective) and active (repeater) satellites. Rosen made satellite technology commercially viable by enabling satellites to achieve geosynchronous orbit, whereby a satellite orbits at the same speed as the Earth's rotation, enabling the satellite to remain above a particular point on Earth 24 hours a day.

The 1993 Draper Prize honored John Backus for the 1950s invention of FORTRAN (FORmula TRANslation), the world's first higher-level computer language. The FORTRAN language contained a compiler, or translator, which converted binary machine language into words, resulting in a computer language that was so easy to understand that nonspecialists could learn and use it.

The 1991 Draper Prize was awarded to Sir Frank Whittle and Dr. Hans von Ohain for development and reduction to practice of the turbojet engine. Whittle's 1928 thesis discussed gas turbines and jet propulsion, and his 1930 patent application outlined the concept of the modern turbojet engine. His design's first successful flight was in 1941. Von Ohain had successfully tested an engine in his workshop by 1937; his design's first successful flight was in 1939.

The first Draper Prize was awarded in 1989 to Jack Kilby and Dr. Robert Noyce, who independently of one another invented and developed the monolithic Integrated Circuit in the late 1950s. The monolithic IC (semiconductor chip) provided an alternative to using wire and solder to connect transistors, capacitors, and resistors, which had seriously limited the size and capability of previous systems.