



PRAVEEN CHAUDHARI

1937–2010

Elected in 1988

*“For contributions to the field of materials science and engineering
and to the advancement of electronic materials.”*

BY MERTON C. FLEMINGS

PRAVEEN CHAUDHARI, an innovator in the field of thin films and high-temperature superconductors, died on January 13, 2010, at his home in Briarcliff Manor, New York. Dr. Chaudhari joined IBM in 1966 and became vice-president of science in 1982. After retiring from IBM in 2003, he became director of Brookhaven National Laboratory, a position he held until 2006.

Praveen was born on November 30, 1937, in Ludhiana, India, where he lived through the scarring times of the Indian partition and witnessed the bloodshed of the 1947 riots. Sent to boarding school, reputedly because of his tendency to go fishing during school hours, he began his path to a professional career. In 1961 he received his bachelor’s degree in metallurgy from the Indian Institute of Technology, in Kharagpur, and then in 1966 his doctoral degree in metallurgy from the Massachusetts Institute of Technology. His thesis topic, under advisor Michael Bever, was on irradiation defects in bismuth telluride.

Praveen then embarked on a 37-year career at IBM Research in Yorktown Heights, New York. He quickly became a source of inspiration to researchers there in many areas of thin-film physics. He was a crucial contributor to IBM's product development activities. During the 1970s, while working with others, he developed the amorphous gadolinium cobalt films that were integrated into IBM's magnetic bubble devices and later served as the basis for read-write media for the magneto-optic disk industry. In recognition of that development, he and his coinvestigators were awarded the National Medal of Technology in 1995.

Appointed vice president of science in 1982, Praveen shaped the evolution of IBM's science research programs in the 1980s while continuing his own productive research career. During the early years following the high-temperature superconductivity discovery, he carried out his executive duties during the day while working in his laboratory in the evenings. His team made a number of important contributions to the field, including the growing of yttrium barium copper oxide crystals with current densities two orders of magnitude greater than those previously obtained.

In 2003, Praveen retired from IBM and became director of Brookhaven National Laboratory. He put the laboratory on a firm foundation of stability and growth. His vision led to new initiatives for the laboratory, including establishment of its Center for Functional Nanomaterials. Praveen stepped down as laboratory director in 2003, joined Columbia University as adjunct professor, and returned to his old laboratory at IBM in Yorktown, where he could often be found running experiments. He remained active in his research until a few months before his death.

Praveen was deeply involved in science and technology policy. He was elected to the National Academy of Engineering in 1988. He was co-chairman of the National Research Council Committee on Materials Science and Engineering (1985–1989). This study was the basis of a presidential initiative in advanced materials and processing programs, announced by the White House in January 1992. He served on the U.S. National Critical

Technologies Panel (1992–1993) and advised the government of India on science and technology policy.

For his achievements, Praveen was honored with a number of awards. In addition to the National Medal of Technology, these included the Institute of Electrical and Electronics Engineers Morris N. Liebmann Memorial Award (1992) for “the discovery of amorphous magnetic films in magneto-optic data storage systems,” now the foundation of the worldwide magnetic-optic disk industry; the American Physical Society’s George E. Pake Award (1987) for personal contributions to science and science management; and the Excellence Award of the U.S. Pan Asian American Chamber of Commerce. Praveen was a fellow of the American Academy of Arts and Sciences and a member of the National Academy of Sciences.

Praveen was also a gifted leader who moved easily in the worlds of science, engineering, and policy. He was quiet but determined, demanding but understanding. His scientific and technological enthusiasm was infectious. He remained a gentleman to the end.

He is survived by his wife, Karin; his son, Ashok; his daughter, Pia; his sister, Neera Sahgal; and his two brothers, Shiv Chaudhari and Deepak Chaudhari.