

Honorary Doctor of Science

Dr Alfred Y CHO

Chairman:

Please allow me to introduce to you Dr Alfred Y Cho, a distinguished scientist, electronic engineer, and a man of culture. Born in Beijing, China, Dr Cho moved to Hong Kong with his family when he was in the sixth grade. He attended high school here and graduated from Pui Ching High School in 1955. He then went to the United States for his college education and studied at the University of Illinois, Urbana-Champaign, where he received his PhD in 1968. In almost forty years of working as an electronic engineer, Dr Cho has been associated with Bell Laboratories and has made great contributions to its success. In the 1970s, his research led to a series of innovations that revolutionized the semiconductor industry. He is widely recognized as the co-inventor and a leading developer of molecular beam epitaxy (MBE), a technique for achieving the ordered growth of thin layers of crystals under high-vacuum conditions. He has developed applications of this technique to manufacture many important electronic devices and products, which have become the building blocks of ultra-high-speed systems with commercial applications, such as cellular phones, compact disc players, police radar, satellite communication systems, and fibre-optic communication networks. As Dr Cho told us at the World Academicians Conference held here at City University last year, “MBE will continue to lead in future crystal growth technology because of its precision, flexibility, uniformity, and simplicity in production and reproducibility.” As Director of Semiconductor Research at Bell Laboratories, Lucent Technologies, Dr Cho provides leadership and charts the future path of scientific research. He has published about 500 articles in professional scientific journals and holds 51 patents in the field. He has certainly achieved a great deal, but he is continually aiming even higher and trying to achieve even more. In him we find a most inspiring example of intelligence, hard work, and perfectionism.

“I learned early in my life that hard work is a major ingredient for success,” says Dr Cho. “We can always do more than we think we are able to do. I drive myself to my utmost capacity so that I will not have regrets later that I did not try my best.” He says that his “first love is art,” and he certainly knows how to combine the

sensibility and bold imagination of an artist with meticulous research and the exactitude and precision of science. His cultural roots in China and his training as a scientist in the United States coexist harmoniously. “In my work as a research scientist,” says Dr Cho, “the secret for success is that I combine Oriental patience with Western technology.” That must be the best of both worlds.

Dr Cho’s outstanding research and achievements have won him high respect, wide recognition, many honours and awards. He is a fellow of the American Physical Society, the IEEE, and the American Academy of Arts and Sciences. He is a member of both the US National Academy of Engineering and the National Academy of Sciences. He is also a member of Academia Sinica in Taiwan and the Chinese Academy of Sciences in Beijing. At a White House ceremony in September 1993, US President Clinton presented the National Medal of Science to Dr Cho in recognition of his outstanding contributions. It would be a long task to enumerate all the honours, medals, and awards Dr Cho has received. Some of the more recent ones include the Material Research Society’s Von Hippel Award in 1994, the Computers and Communications Prize of Japan in 1995, and the New Jersey Inventors Hall of Fame in 1997. More recently, President Clinton has named Dr Cho to serve as a member of the President’s Committee on the National Medal of Science. We hope that Dr Cho’s illustrious reputation will be extended even further at our University today.

Mr Chairman, now I present to you Alfred Y Cho for the degree of Doctor of Science, *honoris causa*.