



Lap-Chee Tsui, PhD

Driven by a commitment to science, and a creative approach to difficult problems, Dr. Lap-Chee Tsui made what is described as the most significant breakthrough in human genetics in 50 years, namely the discovery of the cystic fibrosis gene. Dr. Tsui is an innovator, mentor and role model who stands as a true giant in the field of human genetics. He has made extraordinary contributions to science through his discoveries and is a leader in developing the field of genomics in Canada and internationally. Indeed, his contributions reach round the world to the countless people afflicted with cystic fibrosis (CF), offering new hope for diagnosis and treatment.

The decade-long march to discover the cystic fibrosis gene began when Dr. Tsui arrived in Canada and applied a new theory called genetic linkage to map the most common inherited disease affecting Caucasians: cystic fibrosis. The work of Dr. Tsui, in collaboration with Dr. John Riordan at Toronto's Hospital for Sick Children and Dr. Francis Collins at the Howard Hughes Medical Institute at the University of Michigan, led to mapping the CF gene to chromosome 7.

The discovery, published in three foundational papers in 1989, alerted the scientific community to the powerful new tools now available for the study of inherited disease. One of the most closely watched endeavours in all of science, the search for the gene was regularly featured in scientific journals and mainstream media.

Building on the foundational work done in the discovery of the CF gene, Dr. Tsui has remained a leading figure in CF research. His research group has created the most comprehensive map of chromosome 7, which is particularly rich with disease-causing mutations. This has led to further discoveries by Dr. Tsui's group in Toronto and by many collaborators around the world. Dr. Tsui's laboratory also developed the free-chromatin mapping method and pioneered other techniques that have made a huge impact in genomics research.

With his unique combination of leadership and humility, Dr. Tsui has taken on an international role in the development of the human genome project and in the formation of Genome Canada, so essential to the development of Canadian biomedical research. Throughout his career, Dr. Tsui has always been deeply engaged in the work and careers of the scientists in his program. His successful legacy will not only be measured as a researcher but also in shaping future leaders of human genetics research.

Dr. Tsui's scientific achievements have been recognized worldwide, including a Gairdner International Award in 1990, a Fellow of the Royal Society of Canada, a Fellow of the Royal Society of London and an Officer of the Order of Canada, as well as honours from numerous universities and scientific and medical societies throughout the world.