

Professor Samuel C.C. Ting

Doctor of Science *honoris causa*

Citation

Professor Samuel C.C. Ting is a distinguished physicist and Nobel laureate who, over his career spanning several decades, has made groundbreaking contributions to the fields of particle physics and astrophysics. Professor Ting holds membership in prestigious scientific academies such as the U.S. National Academy of Sciences, the Soviet Academy of Science and the Russian Academy of Science, the Royal Spanish Academy of Science, the Chinese Academy of Sciences, and many others. He is the Thomas Dudley Cabot Professor of Physics at the Massachusetts Institute of Technology (MIT). Professor Ting has dedicated his life to unravelling the mysteries of the universe.

Born in Ann Arbor, Michigan, he was taken to China by his parents at three months of age. He grew up in Chongqing, Nanjing, and Taipei during the war years. Professor Ting developed an early passion for science and mathematics. In 1956, he returned to the United States to attend the University of Michigan in Ann Arbor. In 1962, he left the University of Michigan with a Bachelor's degree in Mathematics, a Bachelor's degree in Physics, a Master's degree in Physics, and a Ph.D. degree in Physics.

Professor Ting joined the faculty at Columbia University, where he discovered the first heavy nuclei antimatter; the antideuteron. He also did an experiment showing the electron has no measurable size. In 1967, he joined the faculty at MIT and conducted a series of experiments on light rays and massive light rays at the Deutsches Elektronen Synchrotron (DESY) in Hamburg, Germany. This series of experiments provided unique knowledge of the properties of high energy light rays.

In 1974, at the Brookhaven National Laboratory on Long Island, New York, he led an experiment which discovered a new form of matter, known as the J Particle. This discovery contradicted the prevailing theory of the basic building blocks of Nature and was known as the "November Revolution". For this work, he was awarded the Nobel Prize two years later.

To emphasise to the young Chinese students that physics is an experimental science, he delivered his Nobel acceptance speech in Mandarin.

He spent the next 20 years working at the highest energy accelerator in the world, the 27 km electron positron collider (LEP) located at the European Center for Nuclear Research (CERN) in Geneva, Switzerland. There he led a 20-nation, 600-physicist group and conducted an experiment to probe the detail of the beginning of the Big Bang and the results of the experiment showed the universe is made out of three types of electrons and six kinds of quarks.

Beginning in 1994, he proposed a precision physics detector to place on the International Space Station to study the origin and properties of cosmic rays, to search for the universe made out of antimatter and the origin of dark matter. To date, this experiment, known as the Alpha Magnetic Spectrometer (AMS), has produced results which have fundamentally changed our understanding of the cosmos. Professor Ting leads this experiment and is in the laboratory most of the time.

The primary motivation of his scientific research is curiosity and his determination to advance our knowledge of nature and the universe. Professor Ting's relentless pursuit of excellence makes him a true visionary in physics. Throughout his career, Professor Ting has received numerous accolades and honours in recognition of his exceptional contributions to science. He holds honorary doctorates from the University of Michigan, Columbia University, University of Bologna, Moscow State University, The Chinese University of Hong Kong, The Hong Kong University of Science and Technology, Hong Kong Baptist University, and many others.

Mr Chairman, it is my honour to introduce you, on behalf of Lingnan University, to Professor Samuel C.C. Ting, a world-renowned physicist for the conferment of the degree of Doctor of Science *honoris causa*.

Citation written and delivered by Professor Paulina Wong Pui-yun