



Name in English: Chen-Ning Franklin Yang

Name in Chinese: 杨振宁 [楊振寧]

Name in Pinyin: Yáng Zhènníng

Gender: Male

Birth Year: 1922

Birth Place: Anhui, China

Nobel Prize Winner in Physics

Profession(s): Theoretical Physicist, Professor

Education: Bachelor of Science, National Southwestern Associated University (西南聯合大學) in Kunming (昆明), Yunnan(雲南)(1942); Master of Science, Tsinghua University (清華大學), in Kunming (1944); Ph.D., University of Chicago (1948) in only 2 years.

Awards: 1957, Nobel Prize in Physics; 1980, Rumford Prize; 1986, National Medal of Science; 1993 Benjamin Franklin Medal; 1994 Bower Award; 1995, Albert Einstein Medal; 1996, N. Bogoliubov Prize; 1999, Lars Onsager Prize; 2001 King Faisal International Prize

Contribution (s): Chen-Ning Yang's family was displaced from Hefei, in Anhui Province by the Japanese invasion of China in 1937. In 1938, the family moved to Kunming in Yunnan Province where several displaced academic institutions including Peking University, Tsinghua University, and Nankai University, had combined to form the National Southwestern Associated University. It was under these dire wartime conditions that Yang earned his bachelor of science degree in 1942. In 1944, he earned his master of science degree and was awarded an American scholarship from the Boxer Indemnity Scholarship Program. After the Boxer Rebellion ended in Chinese defeat in 1900, China had been forced to pay reparations to several countries. The United States chose to use their share of the money to fund scholarships for Chinese students to study in American universities.

After a delay of one year in China as the war ended, Yang finally made it to the University of Chicago in 1946 where he studied under physicist, Edward Teller, later known as the "Father of the Hydrogen Bomb." After receiving his doctorate in 1948 after just 2 years of study, Yang remained at the university for a year as an assistant for physicist Enrico Fermi, who had famously played his own significant role in the Manhattan Project to develop the atomic bomb during WWII. In 1949 he moved to the Institute of Advanced Study in Princeton, New Jersey where he met and began working with Tsung-Dao Lee.

Yang and Lee developed a theory of parity violation in weak force interactions. This force is now known to be responsible for the radioactive decay of subatomic

particles and in starting the process of hydrogen fusion in stars, in short what makes the building blocks of the universe. Their theory violated what were the accepted laws of physics at the time so most scientists ignored it when it was first proposed. Chien-Shiung Wu, who later became known as the "First Lady of Physics" and was the only Chinese American known to have worked on the Manhattan Project was working at Columbia University and knew Lee personally. Most importantly she had access to the cryogenic facilities at the National Bureau of Standards in Maryland needed to test the theory. By measuring beta particles from cobalt 60 slowed by cryogenic temperatures, Wu was able to conduct the tests that proved the validity of the theory. Chen Ning Yang and Tsung-Dao Lee won the Nobel Prize in Physics in 1957 for their theoretical work. Chien-Shiung Wu received the first Wolf Prize in Physics only in 1978 for her experimental work proving the theory.

In 1966 Yang moved to the State University of New York at Stony Brook and became the Albert Einstein Professor of Physics and the first director of a newly founded Institute for Theoretical Physics which is now known as the C. N. Yang Institute for Theoretical Physics. He retired from Stony Brook in 1999 as Emeritus Professor. In 2010, Stony Brook University honored Yang's contributions to the university by naming its newest dormitory building Yang College.

Publications/Patents: Yang, C.N. [1952] (1952). Special problems of statistical mechanics. Seattle: University of Washington Press. ASIN B0007FZHH4.
Yang, C.N. [1961] (1963). Elementary Particles: A Short History of Some Discoveries in Atomic Physics. Princeton: Princeton University Press. ASIN B000E1CBGG.
Yang, C.N. [1983] (1983). Selected papers 1945-1980, with commentary (Chen Ning Yang). San Francisco: W.H. Freeman. ISBN 071671406X.

External Links:

Nobel biography
YITP website (The C.N. Yang Institute for Theoretical Physics at the State University of New York at Stony Brook)
Past Faculty biography (Institute for Advanced Study)
Symmetries and Reflections (C.N. Yang retirement symposium at the State University of New York at Stony Brook)
Official homepage I (State University of New York at Stony Brook) Official homepage II (The Chinese University of Hong Kong)