

Lee was elected to the International Swimming Hall of Fame. He was inducted into the U.S. Olympic Hall of Fame in 1990. USA Diving named an award after him called the WHOSAM, which is awarded to a diving coach and athlete who demonstrate excellence and dedication to the sport while maintaining high mental and physical standards. In 2010, the City of Los Angeles created Sammy Lee Square in Los Angeles's Koreatown in his honor. The city also named August 8 as "Sammy Lee Day."

Dr. Lee has contributed to the sport of diving in other ways. He wrote a book called *Diving* published in 1979. His name has become associated with a highly absorbent towel called "The Sammy Sport Towel," which is used by virtually all divers during practice and competition.

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See also Korean Americans; Koreatown

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Lee, Tsung Dao (1926–)

Tsung Dao Lee is one of the leading physicists in the world and an influential leader in the Chinese American scientific community. Sharing the Nobel Prize in Physics for 1957, Lee has played a key role in facilitating U.S.-China scientific and educational exchanges

and in promoting basic scientific research and education in China.

Tsung Dao Lee (Li Zhengdao in *pinyin*) was born in Shanghai, China, on November 25, 1926, near the end of the chaotic warlord period in modern Chinese history. His father, Li Junkang, had studied agricultural chemistry in college and later managed a fertilizer factory. His mother, Zhang Mingzhang, had graduated from a middle school, a rarity at the time. Learning mathematics, English, Chinese, and martial arts from tutors at home, Lee lived a sheltered life in Shanghai until 1941, when the Japanese invasion led his father to send him and his two brothers inland, first to Zhejiang, then to Jiangxi provinces, to continue their schooling. In 1943, Lee entered Zhejiang University, then in exile in Guizhou Province, to study physics, but left a year later for the Southwest Associated University in Kunming, which was a wartime combination of Beijing, Qinghua, and Nankai Universities. Lee excelled in this competitive environment and was selected for study in the United States at the end of the war as part of the Nationalist government program to prepare for the eventual making of atomic bombs.

In September 1946, Lee enrolled at the University of Chicago where he studied under the Nobel-prize winning physicist Enrico Fermi, who impressed on him the importance for theoretical physicists to keep in touch with experiments. "Even now, sometimes when I encounter difficulties," Lee later wrote, "I try to imagine how Fermi might react under similar circumstances" (Novick 1986, 156). At Chicago, Lee developed a close friendship with Chen Ning Yang, a fellow student from Southwest with whom he would make some of his most important scientific contributions. Upon completing his PhD thesis on white dwarf stars under Fermi in late 1949, Lee worked with the Indian American astrophysicist Subrahmanyan Chandrasekhar at the university's Yerkes Observatory in southeast Wisconsin, for eight months. In 1950, Lee married Jeanette Chin, a fellow Shanghainese, and moved west to the University of California, Berkeley, as a lecturer in physics for a year.

In 1951, Lee accepted an appointment at the Institute for Advanced Study in Princeton, where he collaborated with Yang, who preceded him there by two years, on two important papers in statistical mechanics,

which led to a memorable meeting with Albert Einstein at the institute. Lee moved to Columbia University in 1953 and was promoted to full professorship in 1956. After a short hiatus, Lee and Yang resumed their collaboration in the mid-1950s, first on quantum field theory, then famously on the question of the violation of parity.

By 1955, many physicists were stymied by the so-called theta-tau puzzle, two so-called “strange” particles of different spin parity and decaying patterns but sharing the same lifetime and mass. An unsuccessful attempt to solve the problem led Lee to consider the possibility that parity was not conserved when theta and tau decayed into other particles and that theta and tau were the same particle with different parity states. Encouraged by some preliminary tests carried by his Columbia colleague Jack Steinberger in April 1956, Lee began to formulate a strategy to examine whether parity was conserved in different nuclear processes. In early May, Yang joined Lee and together, through three weeks of intensive research and calculation, they found, to their surprise, that the parity conservation was never experimentally tested for weak interactions, although it appeared to be well established for the other three fundamental forces in nature: the strong, electromagnetic, and gravitational interactions.

In June 1956, Lee and Yang published their doubt about parity conservation in weak interactions in a paper titled “Question of Parity Conservation in Weak Interactions.” Chien Shiung Wu, Lee’s colleague at Columbia, soon carried out an experiment with scientists at the National Bureau of Standards in Washington, D.C., to prove Lee and Yang to be right. The discovery astonished the world of physics and led to many further breakthroughs. In 1957, Lee and Yang shared the Nobel Prize in Physics.

Lee and Yang continued their fruitful collaboration, coauthoring altogether 32 papers from 1956 to 1962 on a number of topics in nuclear, particle, and statistical physics. The association was facilitated in 1960–1962 when Lee spent two years at the Princeton institute. In 1962, however, their partnership collapsed because of personal friction arising from, in part, a dispute over credit for their scientific discoveries. Lee returned to Columbia in 1963 and has remained active in research from particle physics to a theory of high-

temperature superconductivity to dark energy. He also served as an inspiration to other physicists, both theoretical and experimental, playing a major role in the development, for example, of the Relativistic Heavy-Ion Collider at the Brookhaven National Laboratory, which began operation in 2000 and has produced several major discoveries.

Since the early 1970s, Lee has spent much of his time and energy on promoting U.S.-China scientific and educational exchanges. In the summer of 1972, shortly after President Richard Nixon’s historic trip to Beijing, Lee and his wife visited China for the first time since he left in 1946 and they were received by Premier Zhou Enlai. In May 1974, Lee met with the Chinese leader Mao Zedong, and the two engaged in philosophical discussions related to physics. Lee used his meetings with Zhou and Mao to push for reforms in Chinese science and education, which had suffered greatly during Mao’s Cultural Revolution. Since then, Lee has continued to enjoy access to the Chinese leadership and provide advice on Chinese science and education policy. One of his most influential undertakings was the so-called CUSPEA (China-U.S. Physics Examination and Application) program, which brought nearly 1,000 talented Chinese undergraduate students to come to study in the U.S. in the 1980s. He also helped China establish the postdoc system, establish a National Natural Science Foundation to promote science funding based on peer reviews, and build the successful Beijing Electron-Positron Collider with American scientific assistance. It is interesting to note that although both Lee and Yang have been influential in Chinese science and education policy, Lee generally emphasized the need for China to pursue basic research as a fountainhead for technology whereas Yang saw applied research as a more direct route to economic progress in China.

Zuoyue Wang

See also Chinese Americans; Wu, Chien-Shiung

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Lee, Wen Ho (1939–)

Wen Ho Lee is a Taiwanese American nuclear scientist who was falsely accused of espionage by the United States government in 1999. Lee was born on December 21, 1939, in Nantou, Taiwan, during the Japanese occupation. He earned a degree in mechanical engineering at Cheng Kung University in 1960, and came to the United States in 1964, where he earned a doctorate at Texas A&M University in 1969. He married his wife, Sylvia, the same year and they eventually had two children, Chung and Alberta.

In 1974, Lee became an American citizen, which allowed him to apply for jobs at U.S. national laboratories. In 1978, he was hired by Los Alamos National Laboratory, where he worked in the X Division, which was in charge of nuclear weapons research. On March 6, 1999, *The New York Times* published an article by Jeff Gerth and James Risen regarding a weapons breach at Los Alamos National Laboratory, with the main suspect described as a Chinese American scientist who had knowledge of the W-88 warhead. The FBI interrogated Lee about two trips that he had made to China and accused him of failing two polygraph tests that seemed to indicate he was involved in espionage, causing Department of Energy Secretary Bill Richardson to fire Lee from his job at Los Alamos.

In April 1999, another *Times* article surfaced, with the claim that, according to government and lab officials, Lee had downloaded classified data about the United States' nuclear weapons from secure government networks to his home computers and onto portable tapes. On December 10, 1999, the Justice Department arrested Lee and charged him with 59 counts of mishandling classified information, with the intent to aid a foreign country, under the Atomic Energy and Federal Espionage acts. When in prison, Lee sat in solitary confinement, without access to reading materials, television, or radio for 278 days. He had

only an hour's worth of daily exercise, during which he was kept in chains and shackles, conditions that were so severe that they prompted organizations such as Amnesty International, the American Association for the Advancement of Science, and various Asian American organizations to protest Lee's treatment as being cruel and inhumane.

Although the media and the government portrayed Lee as the next Aldrich Ames or Julius and Ethel Rosenberg—a figure so dangerous that government prosecutors advised Chief Judge James Parker of the United States District Court for the District of New Mexico against granting Lee bail—it soon became apparent that Wen Ho Lee bore more similarity to Alfred Dreyfus, the French Jewish officer falsely accused of passing on French military secrets to Germany during the late nineteenth century. Numerous nuclear and defense experts rejected the *Times*'s claim that the W-88 design plans were vital to China's nuclear development, noting that any weapons gains could have as easily been because of internal research. Further investigation revealed that, because the design plans for the W-88 were not even housed at Los Alamos, the theft could not have originated from the X Division, so Lee could not have been the one who had stolen the plans. Likewise, the information that Lee had downloaded was already widely available within the U.S. nuclear weapons community, as well as on the Internet and could be saved on computer desktops as well as sent through the U.S. mail.

The government prosecutors had also misled the court in several key areas. Under intense questioning from Lee's defense team, lead FBI investigator Robert Messemmer retracted crucial testimony and admitted that his previous statements, which claimed that Lee had lied to investigators and colleagues, were false. A CBS story revealed that the FBI had also falsely reported the results of Lee's polygraph tests, claiming that he had failed the first test administered, when in fact he had passed it, and then refusing to disclose the results of the second test. Lee's defense team also unearthed evidence of racial profiling and the dominant role that it played in the government's investigation. In a sworn statement, Robert Vrooman, the former head of counterintelligence at Los Alamos, confirmed that Notra Trulock, the former head of