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Chien-Shiung Wu: An Icon of Physicist and Woman Scientist in China

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Chien-Shiung Wu, the first female president of APS, is a well-known figure in China, a figure who serves as an inspiration for youths, especially young women, to study science and particularly physics. In this presentation, a historical perspective will be used to show how such an icon was formed. Born in 1912, the year of the Republic Revolution, Wu was in the first generation of physicists in China and her college mentor was a student of Marie Curie. When Wu came to the U.S. for graduate studies in the 1930s, it was a "golden age" for nuclear physics, and the invention of the cyclotron by E. O. Lawrence put UC Berkeley at the frontier. Wu was trained there, with Lawrence as her advisor, and later became an expert in Beta-decay. In 1956, Wu conceived and initiated the experiment of Cobalt-60, which, together with other two experiments, eventually proved the asymmetry of parity in weak-interactions, a hypothesis proposed by T. D. Lee and C. N. Yang. The importance of the experiment gained Wu an enormous reputation which spread even to China, when this was a period of hostility in Sino-American relations, and near total isolation due to the Cold-War. Wu was the daughter of a revolutionary, and an activist in college in patriotic student movements, and she combined this background with her scientific career as the way of "Saving China with Science," a common belief reflecting the Zeitgeist of her time. Although she spent most of her life in the U.S., Wu never wavered in her love for or loyalty to her motherland. Her patriotism, as well as her scientific achievement, made Wu a legend in China, being called "the Chinese Madam Curie." Even during the Cultural Revolution, a novel supposedly taking Wu as the original model was very popular in underground circles, widely spread by hand-written-copies. From 1979-1988, the CUSPEA program enrolled hundreds of China's best graduate students into physics departments in American universities. Although Wu herself was not the initiator of it, many participates of the program were inspired by her. From this perspective, Wu's story may also help to understand the cultural characteristics of the Chinese born American physicists which have been a phenomenon in the American physics community since the 1940s till today.