



Accelerator Physicist XIE Jialin Dies at the Age of 96

XIE Jialin, a distinguished expert in accelerator physics and recipient of China's top science award, passed away on February 20, 2016 at the age of 96.

Professor XIE was born in Harbin, Heilongjiang Province in 1920. In 1943, he graduated from the Physics Department of Yenching University and went to the United States for further study. Later, he obtained his M.S. degree from Caltech and his PhD from Stanford University.

From 1951 to 1955, he worked at the microwave and high-energy physics laboratory at Stanford. He was then in charge of building an accelerator at Michael Reese Hospital in Chicago, which was the highest energy (45 MeV) medical accelerator in the world at that time.

In 1955, Prof. XIE managed to return to China and joined the Chinese Academy of Sciences, working as a research scientist first at the Institute of Atomic Energy then at the Institute of High Energy Physics. Although he faced many difficulties, including lack of proper equipment and up-to-date information, as well as continuous exposure to a hazardous environment which put his life in danger from time to time, Prof. XIE was determined to carry on with accelerator research.

"These difficulties were nothing to someone who was eager to achieve something big," he said.

Following the successful pre-research of various components of an electron linear accelerator, including its electron gun, accelerating tube, high-power pulse



Professor XIE Jialin.

modulator, microwave system and high-power klystron, XIE and his group built a 30-MeV electron linac in 1964, the first one of its kind in China. For this, XIE received the Scientific and Technological Achievement Prize at the National S&T Conference in 1978.

During the 1980s, he led the design and development of the Beijing Electron Positron Collider, which is the nation's first large-scale research facility. Later, he also chaired the R&D of the Beijing Free Electron Laser. The laser produced its first spontaneous emissions in May 1993; then it reached saturation by the end of 1993. It is



XIE Jialin and his coworkers at the 45 MeV medical linac in Chicago in 1955.

the first infrared free-electron laser built in Asia.

He was elected as a Member of the Chinese Academy of Sciences in 1980.

For Prof. XIE's pioneering achievements in accelerator research, he received the State Supreme Science Award, the highest award for a scientist in China, from then Chinese President HU Jintao at the Great Hall of the People in Beijing early 2012.

Throughout his lifetime, Prof. XIE authored more than 40 research papers and published several monographs. As the professor of a number of universities and research institutes, he mentored a large number of students; some became outstanding accelerator experts around the world.

In 2015, the International Astronomical Union announced that Minor Planet No. 32928 was named after Prof. XIE Jialin to commemorate his contributions to particle accelerator science. The Institute of High Energy Physics has also established a youth innovation fund which is named after him.

Prof. XIE has long been at the forefront of accelerator research and contributed enormously to the rapid growth of China's high energy physics. He made a role model for all science workers in China, and the XIE Jialin star will keep shining in the sky and inspire the younger generations into the future.

The memorial service for Prof. XIE was held on February 26 at Babaoshan Funeral Home in Beijing.