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# **Robert Peichung (“Bob”) Lin (1942–2012)**

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High energy space physics pioneer and former Director of the Space Sciences Laboratory at the University of California, Berkeley, Robert P. Lin left the heliosphere on Saturday, November 17, 2012, at the age of 70, following a stroke.



Photo credit: [University of California, Berkeley News](#).

Robert Peichung (“Bob”) Lin was born in Kwangsi (Guangxi) China on January 24, 1942. After World War II, his father, Tung-Hua Lin, a pioneer in Chinese aviation, moved the family to London and then on to Michigan, where the elder Lin earned a D.Sc. at the University of Michigan in 1953. The family subsequently relocated to California, where Tung-Hua became an engineering professor at the University of California, Los Angeles.

Bob received his B.S. in physics from Caltech in 1962 and joined Kinsey Amor Anderson’s research group at the Space Sciences Laboratory (SSL) at the University of California, Berkeley. Kinsey had developed an experimental program observing X-rays via balloons, rockets and satellites, including those from solar flares. Bob completed his Ph.D. in physics under Anderson’s direction in 1967, focused on observations of solar flare electrons, including detailed measurements of their propagation in the near-earth environment [1].

Bob joined the staff of SSL after completing his doctorate and remained there for the rest of his life, becoming a senior fellow in 1980 and serving as SSL Director from 1998–2008. Students also benefited from Lin’s expertise; he joined the UC Berkeley faculty as an adjunct professor of astronomy in 1988 and professor of astronomy in 1991 and directed over a dozen Ph.D.’s during his career. He retired from formal teaching in 2011 but remained active in research at SSL. For example, in the weeks before his death Bob was engaged in solar X-ray CubeSat and balloon research with students (Sanders 2012).

Bob’s talent with detection instrumentation led him to put his mark on a wide variety of scientific missions over many decades, beginning with lunar satellites launched by Apollo 15 and 16. Taken in total, his impressive body of work greatly increased our understanding of the interactions between the solar wind and the Moon, Earth, Mars, and Halley’s Comet, as well as solar physics itself. For example, a 1984 balloon experiment discovered X-ray microflares from the Sun [2]. Bob and his team developed satellite instruments that flew on Mars Global Surveyor, Lunar Prospector, Solar TERrestrial RELations Observatory (STEREO), Wind, and the ESA Giotto mission to Halley’s Comet, among others.

Most notably, Bob was the principal investigator for the Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) from 2002–12, which observed hard X-rays and gamma rays from solar flares in order to understand the acceleration of particles and energy release in these explosive events. RHESSI led to advances in our understanding of solar activity as well as instrumentation design.

Bob’s accomplishments were well-recognized by his colleagues. He was a fellow of the American Geophysical Union and the American Academy of Arts and Sciences and was elected to the National Academy of Sciences (2006). He received an honorary doctorate from the University of Toulouse and the 2004 George Ellery Hale Prize from the Solar Physics Division of the AAS for his “pioneering experimental work on the detection of high energy solar radiation and particles, for his many discoveries in the field of high energy solar and heliospheric physics and for his generous and untiring leadership of, and support for, research programs and projects in this field” (Solar Physics Division, 2016). He served as the U.S. representative to the Committee on Space Research of the International Council of Science (COSPAR) beginning in 2010. In his later years Bob was also involved in international scientific collaborations in China and South Korea.

Lin’s impact was also felt far beyond astrophysics. Artist Dr. Joanna Griffin affectionately recounts her experiences with Lin while on an Arts Council of England International Fellowship at SSL in 2006, highlighting his “enthusiasm.” She recalls being invited to one of the “infamous” Monday lunches at a Chinese restaurant with staff and students (a tradition that spanned decades) and being entertained by “extraordinary stories of spacecraft,” especially “Lin’s captivating telling of the Mars Observer’s entry into the atmosphere of Mars” (Griffin 2014, pp. 21–23).

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For additional information see [Lin’s AstroGen entry](#).

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