

Obituaries

Robert V. Langmuir 1912–1993

Robert V. Langmuir, professor of electrical engineering, emeritus, and the codiscoverer of synchrotron radiation, died May 1. He had been a Caltech faculty member for 45 years.

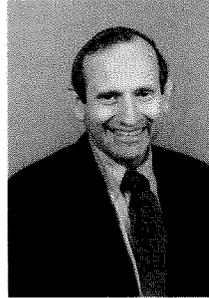
Langmuir earned his bachelor's degree from Harvard University in 1935 and his PhD from Caltech in 1943. From 1942 till 1948 he worked at the General Electric Company's research laboratory, where he and his colleagues reported the discovery, in 1947, that visible radiation was emitted tangentially from the circular orbits of electrons in the synchrotron, a phenomenon arising from the acceleration of highly relativistic electrons in the synchrotron's magnetic field.

In 1948 Langmuir returned to Caltech as a senior research fellow, where for the next 12 years he played an important role in designing and constructing a much higher energy synchrotron—for many years the highest electron accelerator in the world. Langmuir was mainly responsible for the radio-frequency power systems.

He was named assistant professor of electrical engineering in 1950, associate professor in 1952, and professor in 1957. Until his retirement in 1980 he taught, among others, courses in electricity and magnetism and in electronics, while continuing his research on various topics in applied physics and engineering. He



Robert Langmuir



Edward Posner

served as head of electrical engineering from 1960 to 1970.

Langmuir's family has suggested that contributions to Caltech in Langmuir's memory may be sent to the Development Office (Caltech 105-40, Pasadena 91125).

Edward C. Posner 1933–1993

Edward C. Posner, visiting professor of engineering at Caltech and the Jet Propulsion Laboratory's chief technologist for the office of telecommunications and data acquisition, was hit by a truck and killed as he bicycled to JPL on the morning of June 15, 1993.

A memorial service will be held on campus September 28, at 2:00 p.m. in Dabney Lounge. Contributions in Posner's memory may be sent to the Director of Special Gifts (Caltech 105-40, Pasadena, CA 91125) for the Edward C. Posner SURF Memorial Fund to provide fellowship support for a student working on a research project in Posner's field.

Posner earned his BA in physics, and his MS and PhD in mathematics at the

University of Chicago in 1952, 1953, and 1957 respectively. He taught mathematics at the University of Wisconsin and at Harvey Mudd College before joining JPL as a technologist in 1961. He became chief technologist in 1982. He taught at Caltech as a lecturer in electrical engineering at Caltech from 1970 to 1977, was appointed visiting associate professor in 1977, and had been a visiting professor since 1978.

Posner's specialty was information and communication theory. At JPL, his work on coding theory and data compression has enabled the volume of data returned from spacecraft over the Deep Space Network to be increased by several orders of magnitude. His campus research interests included communication network design, and automatic switching systems for such applications as cellular telephones.

The Caltech electrical engineer was one of the founders of research into neural networks at Caltech and JPL in the early 1980s, and was instrumental in the creation of Caltech's interdisciplinary graduate-study program in Computation and Neural Systems, the first program of its kind in the world.

A dedicated supporter of undergraduate research, Posner was particularly involved with Caltech's SURF (Summer Undergraduate Research Fellowships) program. Since 1984 he had sponsored 13 SURF students, not counting three who had just started this summer's work, and since 1990 had been a member of the SURF administrative committee. In 1986 he cofounded the SURFSAT satellite program and between 1988 and 1991 cosponsored 43 SURFSAT students at JPL.