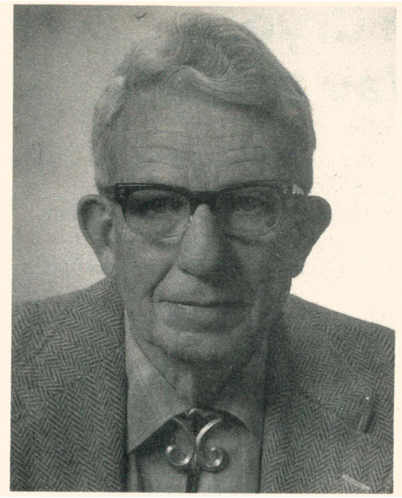

John Henry Manley

clear weapon in a remote and easily guarded area. From the time he arrived in Los Alamos on 4 April 1943, Manley was in charge of coordinating the sustained efforts of the many experimentalists who were trying to develop an explosive nuclear device to help end the war. He later said, "In a way, Los Alamos was sort of unique; everything there having to do with the production and measurement of fissionable materials had been swiped from the academic laboratories—including the personnel."

After the war, Manley received a faculty appointment at Washington University, but after a short time in St. Louis he decided to return to Los Alamos, where he served as associate director from 1947 to 1951. During that period he was also the secretary to the general advisory committee set up by Congress to advise the newly formed Atomic Energy Commission. It was well known at that time that Manley opposed the development of a hydrogen or a "super" bomb on purely practical grounds.

In 1951 Manley left Los Alamos to become head of the physics department at the University of Washington, Seattle. The immediate postwar period was a critical time for many universities, and under Manley's direction the Washington physics department evolved rapidly into a well-known teaching and research center. As department head, Manley exhibited integrity and uncommonly good judgment. What made him a special person was his kindness, compassion, sensitivity and sense of fair play.

In 1954 Manley was a John Guggenheim Fellow, working at Cambridge with Otto Frisch and at Zurich with Hans Staub. In 1957 he returned to Los Alamos as a research adviser to the director, a position he shared with Stanislaw Ulam. Until his retirement in 1972 Manley continued his involvement in research, showing a deep interest in physical studies of biological materials, which he considered the wave of the future in science. His support of basic research at Los Alamos was an important factor in the evolution of the lab into one of the world's major research institutions. Manley supported an arms freeze and nonproliferation of nuclear weapons, but he believed nuclear power was necessary for a viable energy policy.

Many scientists remember the delightful hospitality of the Manley home. John and his wife Kay were gracious hosts. Topics of conversation there ranged far and wide, but rarely departed from the theme of how to make the world a better place for all.

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Aldert van der Ziel

The physics and engineering communities suffered a great loss with the death of Aldert van der Ziel on 20 January 1991. During his 59-year career, Aldert contributed in so many ways to the physics of electronic noise, the physics and engineering of electronic devices and the art of low-noise measurements, that it is now hard to find a device or an experimental breakthrough in these fields that was not influenced by him.

Aldert was born in Zandeweer, the Netherlands, on 12 December 1910. After receiving his doctorate in physics with Frits Zernike at the University of Gröningen, he joined the Philips Laboratory in Eindhoven. In 1947 he became an associate professor of physics at the University of British Columbia in Vancouver, and in 1950 he was appointed professor of electrical engineering at the University of Minnesota in Minneapolis, where he taught until his retirement in 1980. In addition he was a graduate research professor at the University of Florida from 1968 to 1989, working one term at Gainesville each year.

Aldert wrote 15 books, the best-known being *Noise*, published in 1959, *Solid-State Physical Electronics* in 1958 and *Fluctuation Phenomena in Semiconductors* in 1959. Aldert studied the noise of virtually every kind of electronic device developed in this century. His many papers show that understanding the noise in a device often leads to a far deeper comprehension of the basic physics. Without advanced mathematical tools, Aldert was more often than not the first to compute the correct noise spectrum of a new type of device. A prime example of this ability is his theory of noise in bipolar devices (p–n junctions and transistors), for which he used a transmission-line analog. He discovered the principle of parametric amplification in 1948 and helped lay the basis for the invention of maser and laser amplifiers.

In the last decade of his life, Aldert realized that his most ambitious dream, to obtain a fundamental understanding of $1/f$ noise, might come true. In 1980 he was pleasantly surprised to see that quantum $1/f$ noise, an idea he had originally resisted, could explain both his present and earlier $1/f$-noise measurements. He and his students were able to describe the $1/f$ noise of many modern electronic devices in terms of the simple basic quantum $1/f$ formula.

It is hard to overestimate Aldert van der Ziel's quiet contributions to the "nuts and bolts" of modern science and engineering. He will be long remembered and greatly missed by many.

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Jay E. Hammel

Jay E. Hammel, an experimental plasma physicist at Los Alamos National Laboratory, died on 19 July 1990 at the age of 69 of a rare, virulent form of thyroid cancer. He was associated with the magnetic-confinement thermonuclear fusion program almost from its inception in the early fifties.

In 1951 Jay joined Los Alamos and spent the first five years in the weapons division, participating in nuclear physics research and in nuclear weapons tests in the Pacific. Unfortunately, during one of the test operations Jay was accidentally exposed to radiation that may well have caused his fatal illness many years later.

After the 1956 series of tests Jay joined the controlled thermonuclear fusion research effort and participated in the early investigations of many different magnetic-confinement approaches. In the mid-1970s he took the initiative to revive the earliest and simplest concept, the z-pinch, which had been abandoned in the early 1960s because of magnetohydrodynamic instabilities. He pointed

WE HEAR THAT

Jay E. Hammel

out that by using modern pulse-power technology a very-small-diameter, very-high-density plasma could be ohmically heated to thermonuclear temperatures in very short times while approximately balancing the forces of expansion and contraction in the plasma.

At the time of Jay's death a 1.2-MA device with a 100-nsec risetime powered by a 200-kJ Marx bank and starting with a solid deuterium fiber was just coming into operation at Los Alamos. Jay had recognized that cryogenic techniques already existed for producing solid deuterium fibers, and he demonstrated that the explosive wire technique using solid deuterium could be extended into a domain useful for fusion research. This approach has sparked interest and inspired experiments all over the world.

Jay was a warm human being and a delightful colleague who relished much of life beyond his work. He cherished his family and shared with them a great love for nature and outdoor activity. He leaves fond memories with his friends throughout the world.

HARRY DREICER
FRANZ JAHODA
JACK SHLACHTER
Los Alamos National Laboratory
Los Alamos, New Mexico

Mitchel Weissbluth

Mitchel Weissbluth, professor emeritus of applied physics at Stanford University, died on 19 April 1990 at Stanford University Hospital. He was 75.

Weissbluth was born in Russia and immigrated to the United States as a child. He graduated from Brooklyn College in 1936, received a master's