Science in its chemistry department. He will begin his five-year term as dean in January 1988, when the current dean, **G. King Walters,** returns to his duties as professor of physics.

William Rarita was honored on his 80th birthday at Lawrence Berkeley Lab last April. Rarita taught physics at Brooklyn College for 32 years before becoming a visiting scientist in the theory group at LBL in 1962.

OBITUARIES

Howard Laster

Howard Laster died at his home in Iowa City on 31 December 1986. At the time, he was professor of physics at the University of Iowa. He had formerly been dean of the college of liberal arts.

Laster was born in Jersey City in 1930, and obtained his undergraduate degree at Harvard. He received his doctorate at Cornell University for work in theoretical cosmic ray physics and astrophysics. Upon leaving Cornell in 1956, he joined the faculty at Maryland, where he became chairman of the physics and astronomy department in 1965, following a year as director of its space sciences program. During the decade of his tenure as chairman, the department experienced a period of enormous growth, both in the number of faculty members and in the number of federally supported research efforts. Among Laster's achievements were the considerable expansion of the nuclear theory group and the development of the plasma physics program. Outside of the university, his reasonable and rational approaches to controversial subjects were evident during his membership on the Governor of Maryland's Science Advisory Board and on the Board of Directors of the Atlantic Research Corporation. After stepping down as chairman of the department in 1975, Laster served in the International Programs Directorate of the National Science Foundation for one year before resuming academic responsibilities at the Maryland.

In 1977 Laster joined the University of Iowa as dean of the college of liberal arts. As dean he found ways to encourage the creation and implementation of innovative, interdisciplinary programs despite financial stringencies. When he stepped down as dean in 1984, due to serious illness, he began teaching large introductory courses in physics. His dedication and abilities as a teacher flowered during these remarkably active few years.

Statements regarding Howard Laster's successes in academic life do little to express those qualities that meant most to his friends. His intellectual interests extended well beyond scientific boundaries and included a special fondness and appreciation of early music. He was extraordinarily even-tempered and constantly of good humor and relaxed manner. It might be said that he was the ultimate good Samaritan, his instinctive actions directed toward helping the stranger, with personal considerations always pushed aside. His warm, humane qualities and his genuine professional abilities will be terribly missed by all of us who took pleasure in his company.

Howard Laster

ANGELO BARDASIS
DAVID S. FALK
University of Maryland
College Park, Maryland
DWIGHT R. NICHOLSON
University of Iowa
Iowa City

Kalman Kalikstein

Kalman Kalikstein, professor of physics at Hunter College of the City University of New York, died 6 May 1987 after a year-long battle with lung cancer.

In 1943, when he was 14, he and his younger brother were taken by the Nazis from Strzemieszyce, Poland, and imprisoned in a series of concentration camps; the rest of his family perished during the war. After the war, Kalman completed his high-school education at a refugee center near Versailles, France, where his roommate and classmate was Elie Wiesel. After coming to New York in 1947, Kalikstein entered Brooklyn College and received his BS in 1952. From 1953 to 1964 he worked at the Material Laboratory of the New York Naval Shipyard, first as a project engineer and electronic scientist, then as a research physicist. Here his work was mainly concerned with the development and testing of klystrons, magnetrons and traveling wave tubes.

While working for the Navy Kalikstein began his doctoral studies at New York University and completed his degree (under Larry Spruch) in 1964. Based largely on the recently developed variational bound on the scattering length, his thesis was an attempt to interpret the low-energy nucleon–deuteron scattering data. Variational bounds and principles remained of central interest in his research career. In 1964, he and Spruch published a paper in which they rewrote Maxwell's equations as a Schrödinger equation; they could then readily apply the variational bounds and principles developed for quantum mechanical scattering problems to many problems of scattering by obstacles in waveguides. While on sabbatical at NYU in 1983, he collaborated on papers on variational bounds and principles of functions that characterize equalization processes, such as the temperature $T(r, t)$. His publications included many applications of the above results. Although his background was in theoretical physics, he thoroughly enjoyed experimental work, and at Hunter College he collaborated on studies of photoconductivity and luminescence in ZnCdS materials.

In his 22 years at Hunter College, Kalikstein exhibited an unusual degree of consideration for both his colleagues and students. His integrity, humor, modesty and openness won the respect not only of the physics faculty, but of the many members of the Hunter community who knew him. He was extraordinarily gentle. His students continually rated him among the best in the science division, and their admiration and respect for him was evident, especially in his final year.

Kalikstein's outstanding characteristics may be traced not only to the horrors he suffered in his teens, but also to the intensity with which he immersed himself in Judaic learning, He was extremely knowledgeable on

the Talmud, Commentaries and Code of Laws and was considered an authority by many members of the Orthodox community who constantly sought him out for advice and study. He lived his beliefs, and those who knew him, both at Hunter and his community, have suffered a tragic loss.

BERNARD KRAMER
Fairleigh Dickinson University
Hunter College of the City University of New York
LARRY SPRUCH
New York University
STEVE G. GREENBAUM
Hunter College of the City University of New York

Bernard Waldman

Bernard Waldman, former dean of the College of Science of the University of Notre Dame died on 12 November 1986 at Sanford, North Carolina. Waldman was born 12 October 1913 in New York. He received his bachelor's degree in 1934 and doctorate in 1939, both from New York University. He went to the University of Notre Dame in 1938 as a research associate and progressed through the ranks to professor of physics in 1951. In 1967 he became dean of the College of Science.

Waldman played an important role in establishing a research program in nuclear physics with one of the earliest electrostatic accelerators in the country, which was built at Notre Dame in 1936. In addition, he was instrumental in building a second accelerator at Notre Dame, which was used by the Manhattan Project during World War II. He took leave from 1943 to 1945 to go to Los Alamos Laboratory, where he helped develop and test the atomic bomb casings. He witnessed the first nuclear explosion at Alamagordo, and he was aboard one of the planes over Hiroshima when the bomb was dropped, assigned to measure the force of the explosion.

After the war Waldman returned to Notre Dame and built a third electrostatic accelerator. He was a driving force in establishing the physics department as a leading research department in the university; he oversaw the construction of a new science building and built up a faculty in experimental nuclear physics. His research made use of electron beams and included photodisintegration of nuclei and investigation of x-ray production. He made an early accurate measurement of the binding energy of the deuteron, and a precise and detailed investigation of the shape of the x-ray yield curve near the bremsstrahlung limit.

In 1958 Waldman took leave to join the staff of the Midwest Universities Research Association. He became vice president in 1959 and was the laboratory director from 1960 to 1965. The work of this organization on the design and construction of prototype accelerators led to the establishment of Fermilab. Waldman again returned to Notre Dame to become dean of the college of science. In this role he oversaw the implementation of an NSF science development grant, and a new building for the college.

After his retirement from Notre Dame in 1976, Waldman served as associate director of the National Superconducting Cyclotron Laboratory at Michigan State University until 1983, when he moved to North Carolina. Waldman's ashes are buried in the University of Notre Dame cementary.

CORNELIUS P. BROWN
University of Notre Dame
Notre Dame, Indiana

Albert J. Cross

Albert J. Cross, a research scientist at Biosym Corporation (San Diego, California), died on 15 July 1987. He was born on 17 June 1956. He received a BS in chemistry in 1978 from the University of Illinois at Urbana–Champaign and a PhD in chemistry in 1984 from the University of Chicago. His thesis work concerned the theory and analysis of time-resolved experiments using polarized light and the application of these ideas to the internal dynamics of biomolecules. His interest in, and expertise with, computation naturally led him towards molecular dynamics simulations of biomolecules. After postdoctoral work at the University of California, San Diego, he joined Biosym where he continued his work on molecular dynamics. Throughout his long struggle with cancer he continued to work productively. His most recent work concerned the influence of dielectric friction in molecular motion, a new method of calculating free energy differences via thermodynamic integration, and a molecular dynamics study of dihydrofolate reductase.

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