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guided spar, used to point several solar telescopes simultaneously, and he built the first flare patrol instrument.

Evans obtained his PhD in astronomy from Harvard in 1938. He taught astronomy at Mills College from 1938 to 1942, conducted optical research and taught at the University of Rochester from 1942 to 1946, and conducted research at the High Altitude Observatory in Boulder and Climax, Colorado. In 1952 he came to Sacramento Peak Observatory as its first director.

#### APS awards Maxwell Prize to Bernstein

Ira B. Bernstein of Yale University has won the James Clerk Maxwell Prize for Plasma Physics. The prize is given annually by The American Physical Society in recognition of outstanding contributions to our understanding of the "properties of highly ionized gases of natural and laboratory origin." A \$4000 cash award, sponsored by Maxwell Laboratories, Inc., accompanies the prize.

The Society cited Bernstein "for his pioneering contributions to the theory of plasmas; his incisive studies of the physics of waves, stability and transport have provided essential guidance to a generation of colleagues and disciples."

Throughout his career Bernstein has maintained an interest in wave propagation, equilibrium and stability in plasmas. Currently he is working on linear wave propagation in plasmas, including geometric optics, generalized Fourier integral transforms and stability. He is also interested in reduced kinetic equations for plasmas, variational techniques applied to Alfvén wave heating in plasmas, and problems associated with gyrotrons and free-electron lasers.

Bernstein received his PhD in physics from New York University in 1950. Following graduation, he worked as a physicist for Westinghouse Research Labs from 1950 to 1954. He joined the staff of the Plasma Physics Lab at Princeton University as a senior research physicist in 1954 and remained there until 1964, when he moved to Yale.

### obituaries

#### George Kistiakowsky

When George Kistiakowsky died on 7 December 1982, at the age of 82, humanity lost a fighter for its survival. A world-reknowned chemist and



KISTIAKOWSKY

teacher, his experience with nuclear weapons and ballistic missile-delivery systems transformed him into a crusader for their elimination.

Kistiakowsky was born in Kiev, where his father was a professor of chemistry. George, fascinated by the field, planned to study chemistry at the University, but the Russian Revolution prevented that. After two years in the White Russian Army and in prison camps, he escaped to Berlin and began his life-long research in chemical reactions. He came to Princeton in 1926 as a graduate fellow and in 1930 joined the Harvard chemistry department, where he spent the rest of his academic life.

Like most other US scientists and engineers of the period, Kistiakowsky interrupted his academic career when World War II began. He joined the staff of the Los Alamos laboratory as the head of the high-explosives group that designed the trigger for the atomic bomb. Witnessing the first explosion of a nuclear weapon at Alamogordo made such a strong impression on him that from then on he divided his time between efforts to ensure that nuclear weapons would never be used and his research and teaching.

At first, Kistiakowsky's efforts, like those of most of us who had worked on weapons during the war, were focused on new weapons to protect the United States against a feared Soviet nuclear attack. The progression he underwent—from weapons research to membership in Department of Defense advisory committees, to participation in the President's Science Committee and then involvement in President Dwight Eisenhower's efforts to halt the arms race—was both philosophical and pragmatic.

In 1958 was his first opportunity to negotiate with Soviet representatives as one of the principals of the US delegation at the conference in Geneva that Eisenhower and Nikita Krushchev



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agreed to hold on "reducing the dangers of surprise attack." While Kistiakowsky never abandoned his distaste for the Soviet dictatorship or the Soviet economic system, he did come to believe that the safest course for the United States was a negotiated reduction in nuclear weapons stockpiles. With the encouragement of Eisenhower and James Killian, then Science Advisor to the President, Kistiakowsky spent much of his time seeking viable negotiating positions for stopping the arms race.

In 1969, when he succeeded Killian as Special Assistant for Science and Technology, Kistiakowsky became fully engaged in the problems of a secure peace that preoccupied the President and a growing number of scientists and other concerned citizens. There were many people, of course, who opposed the President's arms-limitation goals, and Kistiakowsky's efforts made him some powerful enemies, which did not deter him and in fact gave him special pleasure. His great intellectual and human qualities earned him a unique place as one of Eisenhower's most trusted aides and friends.

Though he returned to Harvard when Kennedy succeeded Eisenhower as President, the problems and the dangers of the arms race remained uppermost on his mind. With his considerable experience, awesome drive and dedication, he continued to work for arms control and, in doing so, became the symbol of the efforts of many scientists who share the goal. As chairman of the Council for a Livable World, he lent power and prestige to that organization and encouragement and hope to millions who did not have the professional involvement he had had with these issues.

JEROME B. WIESNER
Massachusetts Institute of Technology

he joined the physics department full time.

Reynolds was very interested in helping the development of science in Latin America and Asia. Besides being adviser to several universities in these continents, he spent a year each at the University of Guayaquil (Ecuador) and the University of Peru to assist in their science programs.

RAM P. CHATURVEDI State University of New York College at Cortland

#### F. J. Workman

E. J. Workman, president of the New Mexico Institute of Mining and Technology for eighteen years and a noted atmospheric physicist, died in Santa Barbara, California, on 27 December 1982 at the age of 83.

He did his undergraduate work at Whitman College, where he graduated with Walter Brattain, Walker Bleakney, and Vladimir Rojansky in 1924. He received his PhD at the University of Virginia in 1930. He was a National Research Council Fellow at the Bartol Research Foundation of the Franklin Institute and at the California Institute of Technology from 1930 to 1933. He had been head of the physics department at the University of New Mexico in Albuquerque for thirteen years when, in 1946, he was appointed president of the New Mexico Institute of Mining and Technology and director of its newly created research and development division.

He is remembered for the discovery of electric potentials associated with the freezing of dilute aqueous solutions (the Workman-Reynolds effect) and for his research in atmospheric electricity including thunderstorms and other weather-related areas. Workman was an enthusiastic teacher and designed many novel demonstrations for his students.

During his tenure as president of New Mexico Tech, he established the Langmuir Laboratory for Atmospheric Research at an elevation of 3240 m in the nearby Magdalena Mountains. This laboratory has become a leading international center for thunderstorm studies.

Following his retirement at the New Mexico Institute of Mining and Technology, he became the first director of the Cloud Physics Observatory of the University of Hawaii at Hilo.

MARY BROOK MARVIN WILKENING New Mexico Institute of Mining and Technology

#### Dan McLachlan Jr

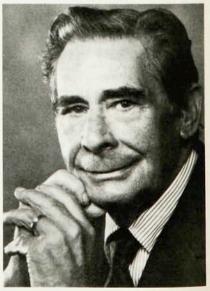
Dan McLachlan died on 3 December 1982, two days before his 77th birthday. McLachlan was emeritus professor of mineralogy at Ohio State University. He was editing the final proofs of Crystallography in North America for the American Crystallographic Association when he suffered a massive heart attack.

McLachlan was born in Arcola, Saskatchewan, and educated at Kansas State College, receiving his BS in 1930, and at Pennsylvania State College, receiving his MS in 1933 and PhD in 1936. He was a physical chemist at Corning Glass from 1936 to 1941, and a physicist at American Cyanamid to 1947, before serving as professor of metallurgy, mineralogy and physics at the University of Utah until 1953. He then went to the Stanford Research Institute as assistant chairman of the Poulter Laboratory, and later to the University of Denver, where he served

WORKMAN



MCLACHLAN



#### H. Kendall Reynolds

H. Kendall Reynolds, professor of physics at State University of New York College at Cortland, died on 14 November 1982 at the age of 56.

Reynolds received his PhD in nuclear physics from Caltech in 1953 and soon after joined the University of Houston, where he spent the next 15 years. He was chairman of the physics department in 1960–65. During those years, his department increased in size from 9 to 17 faculty members and developed the PhD program in physics.

In 1968, Reynolds joined SUNY Cortland as Dean of Arts and Sciences. His foremost love was to teach physics, and even as a dean he taught an upper-level course in physics every semester. In 1981, when he stepped down as dean,