

detector to study the kinetics of atmospheric and combustion chemistry.

During the mid-1980s, another powerful tool developed in Ken's laboratory was a tunable FIR source. He achieved this source by mixing tunable and fixed-frequency IR laser beams. The spectra of many trace nonparamagnetic species in the FIR region has been revealed using tunable FIR techniques.

One of Ken's most significant achievements was as the lead researcher on a team of NIST scientists who, in the early 1970s, developed and improved methods for measuring optical frequencies. Using the NIST atomic clock as the standard, they created a ladder of highly accurate frequency standards from the microwave region up to a measurement of the frequency of the methane-stabilized helium–neon laser at $3.37\text{ }\mu\text{m}$. The result, combined with an accurate

measurement by John Hall and Richard Barger at JILA of the wavelength of the laser, produced a 100-fold improvement in the value of the speed of light. Recognizing c as one of the most fundamental of all physical constants, Ken and his coworkers suggested in their 1972 *Physical Review Letters* article that one could eliminate the problem of combining independent time and length standards to determine c by redefining the length standard as the distance traveled by light in a fixed period of time. A decade later, after their result for c was confirmed and improved upon by measurements in other laboratories, the meter was redefined as the length of a path traveled by light in a vacuum during a time interval of $1/299\,792\,458$ of a second.

Although Ken officially retired from NIST in 1999, he continued his research on electrical discharges until

his declining health prevented him from working. His extensive contributions to physics have been acknowledged by many awards and honors: In 1981, the British Chemical Society honored him with the Spiers Memorial Lecture and Prize. Five years later, he won the Humboldt Research Award from the Alexander von Humboldt Foundation in Germany. From the US Department of Commerce, he received a Silver Medal in 1971 and a Gold Medal in 1974. In 1991, he was awarded the Earle K. Plyler Prize by the American Physical Society.

Ken had a wonderful sense of humor and didn't take himself or the events of life too seriously. He loved brewing and consuming beer, fly-fishing, camping, and hiking. He advocated the preservation of open space and nature. For 30 years, he served as chief of the local volunteer fire department. He supported his wife's in-

David Abraham Katcher

David Abraham Katcher, the founding editor of *PHYSICS TODAY*, died of cancer at his home in Chevy Chase, Maryland, on 31 May 2002. He was a pioneer technical editor and science journalist during the post-World War II period, when the importance of science in national security and public policy greatly expanded. In addition to his work with *PHYSICS TODAY*, he was instrumental in the startup of another institution—JASON.

Katcher was born in Brooklyn, New York, on 28 April 1915. He received his BA in physics at the University of Wisconsin in 1936 and subsequently did some graduate work there in English. After working from 1941 to 1943 as an editor at the Naval Ordnance Laboratory, Katcher volunteered for service in the US Army. Following a stint as a private, he was sent to Officer Candidate School and then to the Philippines, where, until his discharge in 1946, he served as a speechwriter for the US high commissioner.

In September 1947, the American Institute of Physics (AIP) selected Katcher as the editor of a new monthly magazine, *PHYSICS TODAY*. He worked with AIP to arrive at an approach that would, as he put it in his first editorial (May 1948, page 3), serve "the student, the teacher, the lawyer, the doctor, and all who are curious about physics." Katcher stayed on as editor until 1950.

For the next several years, Katcher continued as an editor of technical subjects, working at Johns Hopkins University's operations research office, where he supervised a staff of about 40 people who conducted studies for the US Army. In 1956, he was an editor in the weapons system evaluation group of the Institute for Defense Analyses, in Northern Virginia.

From 1959 to 1966, Katcher was the first executive director of JASON, the self-selecting group of scientists that advises the federal government chiefly on national security issues. That assignment came about on the recommendation of Nobel laureate Charles Townes, who had known Katcher from his *PHYSICS*



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TODAY era. Katcher worked closely with Marvin Goldberger, the first chairman of the JASON steering committee, to communicate the needs of the larger JASON group and to set up activities such as visits to military installations and the JASON group's signature summer studies.

Katcher left JASON to join the management consulting firm of Arthur D. Little in Cambridge, Massachusetts. He returned to Washington, DC, in 1972 as a senior staff member of the National Advisory Committee on Oceans and Atmosphere (NACOA). In that capacity, he advised the National Oceanic and Atmospheric Administration on marine mammals, commercial fisheries, and funding for its satellite programs. Robert M. White, the first administrator of NOAA, noted the uncommon grace with which Katcher discharged his duties to ensure the soundness of the recommendations.

Four years later, Katcher moved into the newly created White House Office of Science and Technology Policy as a senior policy analyst, returning briefly to NACOA in 1978 to help in its transition under a new statute. Later that year, he worked as a special assistant in the State Department's Office of the Undersecretary for Security Assistance. Following his retirement from that position in 1980, Katcher engaged in freelance editorial work for the National Research Council and other clients.

Of all his career milestones, Katcher was the most proud of his role at *PHYSICS TODAY*. After leaving the magazine, he observed a ritual of contacting each of his successors to wish them well as editor. In honor of the magazine's 50th anniversary, Katcher was invited to write a retrospective article (see *PHYSICS TODAY*, May 1998, page 6). His insight into what nourished him over a long career was this: "Among the joys of physics is knowing physicists."

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