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VICTOR WEISSKOPF

*Massachusetts Institute of Technology
Cambridge, Massachusetts*

David Korff

David Korff, a professor of computer science and former professor of physics at the University of Lowell, died suddenly on 30 August 1988, at the age of 52. Korff had achieved worldwide recognition for his contributions to the field of atmospheric light propagation.

Korff received his BA from Harvard University (1956) and his PhD in physics from Brandeis University (1963). His doctoral research, done under Kenneth Ford, was in quantum field theory. After teaching for several years at the University of Maryland, he was invited to develop a program in theoretical physics at the Lowell Technological Institute in Lowell, Massachusetts. While there he also became a consultant to Avco Everett Research Laboratory. During the last several years of his life, he founded North East Research Associates, an R&D company in Woburn, Massachusetts.

While at Lowell Korff headed a committee appointed by Kevin Harrington, then State Senate President, which formulated a plan to reorganize the higher-education system. This plan was eventually adopted by Governor Michael Dukakis of Massachusetts, and formed the blueprint for the system in place today. In addition, Korff helped develop the first doctoral program in physics at the institute. As president of the institute's first faculty union, he structured the school's merger with Lowell State College to create the University of Lowell.

Korff's research was initially in quantum field theory. While at the University of Maryland he wrote a paper proving the integral spin nature of the photon using group theoretical methods. Along with Young Suh Kim and Sado Oneida he carried out research in weak interactions and SU(3) invariance, and at Lowell he worked with Zoltan Fried and Adolph Baker on nonlinear quantum electrodynamics. In 1971 Korff wrote a key paper clarifying the atmospheric optics and optical physics of speckle

interferometry, a technique now widely used by astronomers for high-resolution imaging, and in 1975 he was the first to explain the atmospheric "isoplanatic patch," the range of viewing angles for which the optical effects of turbulence are invariant. Along with graduate students Richard Leavitt and Edward Salesky, Korff developed a cutoff-independent theory of line broadening and shifting in atomic and molecular spectra. Korff and David Shulman, a computer-science student, developed a computer code for modeling the propagation of high-powered lasers through the atmosphere that combines the effects of turbulence, thermal blooming and Raman conversion. At Avco Korff was instrumental in deriving a linear stability theory for high-powered continuous-wave CO₂ lasers. In nonlinear optics, he developed, along with Allen Flusberg, Carolyn Duzy and Eric Mazur, the Hilbert-space formulation for explaining broadband Raman amplification and Raman amplification of more than one pump beam.

In recent years Korff's efforts were in both administration and research. As president of North East Research Associates Inc, he formed a group of highly motivated scientists and computer scientists to analyze problems in atomic physics, laser physics, nonlinear optics and atmospheric propagation. Shortly before his death Korff, with Robert Myers, showed the importance of turbulence in thermal blooming. Most recently, Korff and Steven Ebstein invented a new technique using fourth-order correlation interferometry, which involves mixed pupil-plane/image-plane imaging.

Korff's love of problem solving, and in particular stochastic processes, extended beyond physics. He especially loved a good card game, and would share with his friends, in addition to his insights in optics, the "Korff system" for success at the gaming tables. David was a "guru" for many scientists, students and even for a good number of his friends. He will be missed.

ALBERT ALTMAN

*University of Lowell
Lowell, Massachusetts*

CAROLYN DUZY

ROBERT B. MYERS

*North East Research Associates Inc
Woburn, Massachusetts*

Stanley Sekula

Stanley T. Sekula, a research physicist at Oak Ridge National Laboratory, died of a cerebral hemorrhage on 5 December 1989. He was 62 years old.

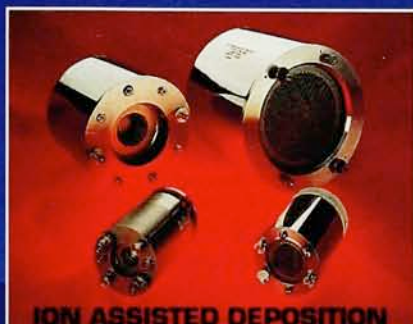
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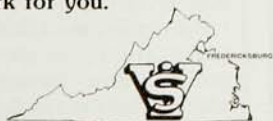
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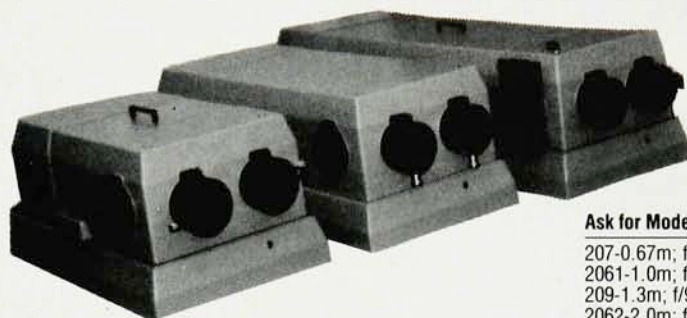
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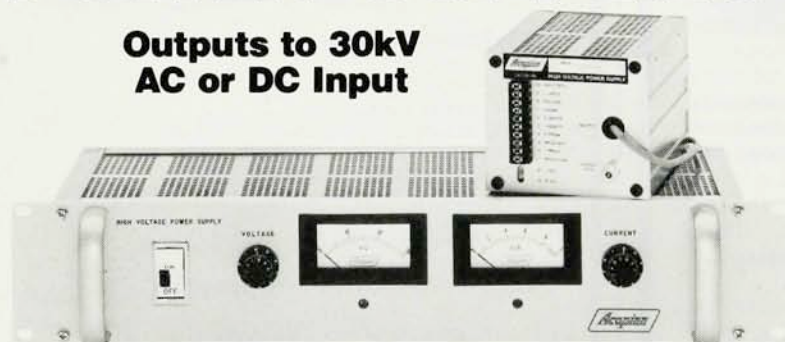
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After serving in the US Navy during World War II Sekula, a native of Niagara Falls, New York, enrolled at the University of Buffalo, where he received a BA in 1951. He earned his PhD in solid-state physics from Cornell University in 1959, and joined the research staff at ORNL that same year. He spent all of his 30-year professional career at Oak Ridge, except for the year 1963-64, when he taught at the Middle East University in Ankara, Turkey.

In the early 1960s Sekula established a research program at ORNL to study type II superconductors. Later, as a group leader in the solid-state division, he guided his group's activities with grace and balance. His efforts focused on the electromagnetic characterization of superconducting materials, particularly of their bulk and hysteretic properties. For example, Sekula made the first magnetization studies of the then newly discovered elemental superconductor technetium. Also, he made pioneering investigations of the critical current density J_c in a "force free" configuration in which the supercurrent J flows parallel to the applied magnetic field.

Defects in a type II superconductor, called "pinning sites," can prevent the lateral motion of magnetic flux through the material, allowing loss-free transport of dc currents. Sekula investigated the controlled introduction of defects by irradiation of superconductors with various particles, particularly neutrons. In the 1960s and 1970s he studied the influence of damage-induced pinning in niobium, vanadium and other metallic superconductors. In very early neutron-irradiation studies of high-temperature superconductors, Sekula discovered an enhancement of J_c and decrease in T_c in $\text{La}_{1.85}\text{Sr}_{0.15}\text{CuO}_4$. This result, which was reported at the famous "Woodstock" meeting of the APS in March 1987 and later published (*Japanese Journal of Applied Physics* **26**, 1185, 1987), foreshadowed the current great interest in J_c enhancement via particle irradiation. Sekula employed ion-beam methods and pulsed-laser processing of materials at low temperatures to create and modify a number of superconducting materials, including Al-H, Mo-C, Mo-N, Al-Ge, Nb-N and V-N.

Sekula led the ORNL superconductivity group in its early days of growth, then through a relatively austere period, and finally into the explosive era of high-temperature superconductors.

Sekula had planned to take an early retirement from ORNL in ear-

WE HEAR THAT

ly 1990. However, with characteristic zeal and curiosity, he had arranged for an extended scientific visit to Japan following his retirement and also had initiated a study of cryogenic temperature sensors for use in environments containing ionizing radiation.

Stan Sekula was a gifted experimenter with a remarkable ability for getting things done. He was an esteemed colleague, a mentor and, most of all, a dear friend. We shall miss him greatly.

JAMES R. THOMPSON

DAVID K. CHRISTEN

H. RICHARD KERCHNER

CHARLES E. KLABUNDE

Oak Ridge National Laboratory

Oak Ridge, Tennessee

Louis Russell Weber

Louis R. Weber died on 18 May 1989 in Fort Collins, Colorado, after a lengthy illness. He was 87.

Weber had moved from Kansas to Colorado in 1938 to head the physics department of what was then Colorado A&M College (now Colorado State University). Under his strong, enthusiastic leadership, what had been only a service department soon had students majoring in physics. Shortly after World War II Weber introduced a master's degree program, which very quickly led to a doctoral program.

Weber received his AB from Park College in 1925. His MS and PhD were from the University of Michigan, where he was a student of Harrison M. Randall. Before coming to Colorado, Weber was for 12 years a professor and head of the physics department at Friends University. His overall impact on the small Quaker college was such that 35 years after he left, the physics laboratory was renamed the Weber Laboratory of Physics.

Weber always delighted in teaching one of the large elementary courses, and many of his former students felt that he was one of the best professors they had ever had. His efforts were not wasted, for a great number of his students went on to receive scientific distinctions and honors. He was active in international education, serving as a Fulbright Lecturer in Baghdad, in Manila and in Medellín, Colombia, and spending two years as a science adviser at the University of Peshawar in Pakistan.

For those of us who knew him as a teacher, a colleague or a friend, Louis Weber will be sorely missed.

LAWRENCE N. HADLEY
Colorado State University
Fort Collins, Colorado ■



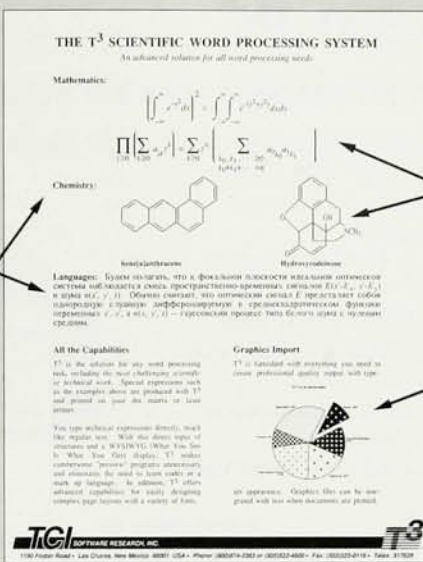
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