

grounds remained grateful to fate for bringing them together with Lifshitz.

M. I. KAGANOV

Institute of Physical Problems, Moscow

JOSEPH L. BIRMAN

City College of New York

Herbert Mahr

Herbert Mahr, for twenty years professor of physics at Cornell University, died at his home on 10 March 1982, after a prolonged illness. He was 52.

Mahr was born in Fürth, Germany, and took his PhD at Erlangen. He accepted a teaching position in 1957 at the University in Tucuman, Argentina, then two years later became a research associate in the Cornell Laboratory of Atomic and Solid State Physics and in 1962 assistant professor of physics there.

Mahr's research centered on the use of optics in the experimental investigation of crystalline solids. His work began with optical studies of insulators using classical sources of ultraviolet radiation, and burst ahead into new problems and new techniques with the advent of the laser in the mid-1960s. His first laser study was of two-photon absorption in a pure crystal. Soon after, he and Chung Tang demonstrated a new phenomenon, spontaneous parametric light scattering, in which one photon turned into two while still conserving energy and momentum. Mahr, also fascinated with very short laser pulses, with them explored ultrafast processes in materials. He also explored strange behavior that occurs in solids under laser excitation at very high intensity. Recently, he worked on an elegant but difficult scheme that he hoped might lead to a laser for Lyman- α radiation.

Believing that teachers do too much lecturing for what is an experimental science, Mahr developed a new course, the modern optics lab, in which students learned optics hands-on, without lectures, using experiments he devised and notes he wrote.

For his enthusiasm, industry and imagination, Mahr's influence will be missed by his colleagues and scientists elsewhere.

NEIL ASHCROFT

PAUL HARTMAN

Cornell University

Marion Llewellyn Pool

Marion Llewellyn Pool, professor emeritus at The Ohio State University, died at the age of 82 in Illinois in October 1982. He was educated at the University of Chicago: He received his BS there in 1924 and his PhD in 1927. In 1928 he came to The Ohio State Univer-

sity as an assistant professor. He became associate professor in 1932 and professor in 1941. A prolific research worker, Pool published hundreds of papers in the fields of artificial radioactivity, nuclear reactions and nuclear spectroscopy, plasma physics, and reactor physics. He also constructed at OSU one of the first cyclotrons in this country. After his retirement in 1971 he continued active research work at the departments of chemistry and physics at Western Illinois University on problems of magnetic confinement of fusion plasmas, a subject he was working on at the time of his death.

E. LEONARD JOSSEM

The Ohio State University

Morton M. Traum

Morton M. Traum, member of the technical staff of Bell Laboratories, died at age 41 on 1 December in Stoughton, Wisconsin.

Traum was educated at Rutgers University (BS, 1965) and Stevens Institute of Technology (MS, 1971; PhD, 1976). He joined Bell Laboratories in 1968 and became a specialist and an innovator in surface physics and synchrotron-radiation science, particularly in photoelectron spectroscopy and photon-stimulated desorption. He collaborated in the first demonstration that angle-resolved photoelectron spectroscopy could be used to map directly the energy band structure in solids and at surfaces. He contributed to the use of synchrotron radiation in angle-resolved photoelectron spectroscopy and demonstrated the strength and utility of polarization selection rules. His most recent activities centered on stimulated desorption phenomena.

Traum was chairman of the Surface Science Division of the American Vacuum Society. He was instrumental in establishing a prize for the best student paper on surface science presented at the Annual Meeting. Officers of the American Vacuum Society have announced that this prize will be named for him.

NEVILLE V. SMITH

Bell Laboratories

Serge E. Golian

Serge E. Golian died on 24 September 1982 at the age of 71. Born in Russian Turkestan, he received his early education in China. He attended the University of Cincinnati and the University of Chicago. During World War II he worked at the Radiation Laboratory at MIT, where he was engaged in the development of radar beacons, and, in

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1944, at the radar laboratory station in Malvern, England.

After the war, Golian joined the Naval Research Laboratory, where he engaged in cosmic-ray studies with instruments on the V-2 and Viking rockets. He then moved to the Brookhaven National Laboratory for three years to work on the construction of the Cosmotron. He also continued his work on cosmic rays with Skyhook balloons and field expeditions to the Caribbean. Returning to the Naval Research Laboratory in 1951, he was involved in the planning and execution of diagnostics for nuclear weapons tests. Later he joined a team to design and construct the NRL research reactor and the associated experimental program and became head of the nuclear-reactor branch in 1956. In 1958 he joined the Aeronutronic Division of the Ford Motor Company in Newport Beach, California, where he was manager of the space physics department and worked on various aspects of both civil and military space efforts. He retired in 1971.

THOR A. BERGSTRALH
Rancho Palos Verdes,
California

Harold Forstat

Harold Forstat, professor of physics at Michigan State University, died last spring. He had been on medical leave from the University since September 1981.

Forstat was born in 1921 in Brooklyn, New York, and received a bachelor of science degree from Brooklyn College in 1942. He earned a master of science degree in 1950 at Purdue and a doctorate at the University of Connecticut in 1955.

FORSTAT



cut in 1955. Between 1942 and 1948 he held staff physicist positions at the Camp Evans Signal Laboratory, at Columbia University and at the Metallurgical Laboratory of the University of Chicago.

In 1955, Forstat joined the MSU faculty and began a research program in low-temperature physics, which prompted the purchase of a helium liquefier, the physics department's first major piece of research equipment. One of his areas of interest was research in heat transfer and temperature control of helium. He also conducted extensive experiments on the specific heats of paramagnetic and antiferromagnetic crystals at low temperatures. He was the author or co-author of numerous scientific articles and abstracts.

While at MSU, Forstat taught introductory and advanced physics courses. He guided the doctoral and master's degree dissertation research of about a dozen students. He always set the highest intellectual standards for himself and held his students to those same standards as well.

PAUL M. PARKER
MICHAEL J. HARRISON
Michigan State University

Eugene Baroody

Eugene M. Baroody, a theoretical physicist at Battelle Memorial Institute for many years, died 26 August 1982 in Richmond, Virginia, where he was born in 1914. He graduated from the University of Richmond in 1935 and received his doctorate in theoretical physics under Hans Bethe at Cornell in 1940. After teaching at the North Dakota Agricultural College and the University of Missouri, he joined the Battelle staff in 1943. The following year, at Bethe's request, he went to Los Alamos, where he worked until 1946. He then rejoined Battelle and remained there, except for short sabbaticals and visiting professorships, until his retirement in 1977.

His chief areas of research dealt with electron interactions in solids, energy loss and secondary emission, and radiation-damage effects in solids. His wider interests included such diverse areas as thermal shock in solids, the Matano-Boltzmann method of solving the nonlinear diffusion equation, the spectra of isoelectronic atomic ions, and more recently the Korteweg-de Vries equation and soliton theory. Probably Baroody's best known scientific work is his theory of secondary electron emission, which explains, among other things, the positive correlation between work function and electron yield.



BAROODY

His friends will remember not only his willingness to take whatever time and effort were necessary to explain a point or to help with a problem, but also his lifelong pursuit of intellectual interests as diverse as archaeology, French literature and the history of physics.

VAN E. WOOD
Battelle Columbus Laboratories
RALPH J. HARRISON
Army Materials and Mechanics Research
Center

Rudolf Frerichs

Rudolf Frerichs, retired professor of physics at Northwestern University, is dead at 81.

Much of his early work during the 1930s and 40s was with cadmium sulfide, the synthetic crystals that were incorporated later into photocells for use in automatic light switches, light meters and automatic cameras. In later years he worked on a new class of optical materials, the infrared transmitting "sulfide glasses," and on the development of new material for extremely thin electrical wires.

Born in Cologne, Germany, Frerichs received his PhD there in 1924. His initial area of specialization was spectroscopy. From 1928 to 1930 he studied at the University of Michigan and at Caltech. On his return to Germany, he was a physicist with the German Bureau of Standards and later with the German Electric Company. He came to the US in 1947 and joined the physics department at Northwestern University, where he continued actively in both research and teaching. □