replaces Thomas B. Cook Jr, who retired in October.

Frank Di Salvo, formerly head of the solid-state and physics-of-materials research department at Bell Labs (Murray Hill, New Jersey), is now professor of chemistry at Cornell University. His research is in solid-state chemistry and the physics of novel materials.

obituaries

Wallace C. Koehler

Wallace C. Koehler died at his home in Oak Ridge, Tennessee, on 1 April 1986 after a brief bout with cancer; he was 65 years old. Koehler was a distinguished scientist and corporate fellow at the Oak Ridge National Laboratory, a longtime member of the solid-state division and director of the National Center for Small Angle Scattering Research.

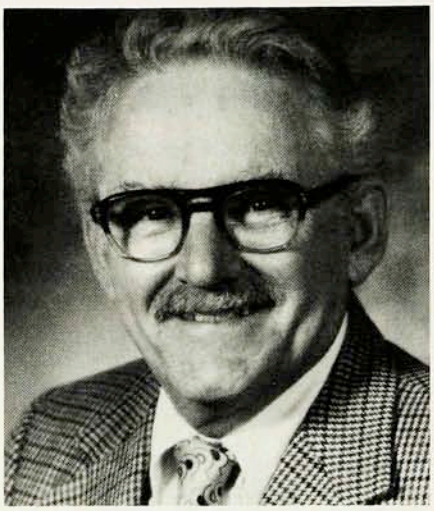
Born in Chicago, Koehler received his BS in physics from the University of Chicago in 1943, an MS from the same institution in 1948 and a PhD in physics from the University of Tennessee in 1953.

In 1949 Koehler came to Oak Ridge, where he, Clifford G. Shull and Ernest O. Wollan pioneered neutron scattering techniques for the study of condensed matter. He was innovative and energetic and, in spite of his youth, he was soon recognized as a leader in the field. Many neutron scattering programs in the world today were built on the foundations laid at Oak Ridge in those early days.

Koehler's research utilizing neutron scattering techniques spanned many areas of the solid-state sciences. He was concerned with such diverse topics as neutron–nucleus scattering amplitudes, crystallography of materials with light atoms, magnetic crystallography, magnetic interactions in condensed systems and superconductivity. He was also involved in developing new neutron scattering techniques; one of his most important contributions was the technique of polarization analysis, which he and his associates developed at Oak Ridge.

Early in his career, Koehler's interests turned to magnetism, and he made many significant contributions to the understanding of magnetic phenomena. Of special importance was his work on three-dimensional transition metal compounds, and particularly his detailed investigation with Wollan of the perovskite-type compounds $La_{1-x}Ca_xMnO_3$. This research was instrumental in explaining the magnetic superexchange mechanisms that exist in such materials.

Koehler's most profound and influential neutron scattering research dealt with rare earth metals, alloys and



KOEHLER

compounds. He was immensely interested in these materials, and he became one of the leading authorities on rare earth magnetism. Koehler and his Oak Ridge associates explained the very unusual magnetic properties of the heavy rare earth metals by unraveling the complicated long-range sinusoidally modulated magnetic structures that exist in these metals at low temperatures.

In 1978 Koehler embarked on a second career. With funding from the National Science Foundation he built the country's most powerful user-oriented small-angle neutron scattering facility at the Oak Ridge High Flux Reactor. The National Center for Small Angle Scattering Research, which includes this 30-m neutron scattering instrument and a 10-m x-ray scattering machine, soon became a hotbed for polymer research and for investigations in other areas of condensed matter science. Several hundred scientists have taken advantage of this superb national facility, and it was largely Koehler's untiring effort that made the center so successful. He cared deeply for the science, and he cared equally that his users succeed: Many were the times that he came out to the laboratory at night or on weekends to rescue a user who had run into trouble. "When will they ever learn to read the user's manual?" he would complain. But he was always there to help, and always encouraging and supportive.

Koehler was a man of many parts. Not only an outstanding scientist, he was a talented actor and a lover of music and the arts. Professionally, he was stubborn when he thought he was right, and he never lost his determination to excel as a physicist.

RALPH M. MOON JR
MICHAEL K. WILKINSON
ALEXANDER ZUCKER
Oak Ridge National Laboratory
Oak Ridge, Tennessee

Herbert A. Pohl

Herbert A. Pohl, visiting scientist at the National Magnet Laboratory and professor emeritus at Oklahoma State University, Stillwater, died on 21 June 1986.

Pohl was born in Lisbon, Portugal, of American parents in 1916. He had his undergraduate as well as graduate education at Duke University, earning a PhD in physical chemistry in 1939. After spending a year at John Hopkins Medical School as a National Defense Research Fellow, he served during World War II as a senior chemist at the US Naval Research Lab. His academic life included faculty positions at Princeton, Brooklyn Polytechnic and Oklahoma State University, where he served from 1964 until his retirement in 1981. Before his research work in academic laboratories Pohl carried out his scientific investigations for 12 years in industry as a senior research associate at E. I. Du Pont de Nemours and Company. Pohl was editor of the *Journal of Biological Physics*, coeditor of *Digest on Dielectrics* and on the editorial board of the *Journal of Electrostatics*. He wrote a monograph on dielectrophoresis, a textbook on quantum mechanics for science and engineering, which was translated into French, Italian and Japanese, and over 200 research papers, besides editing other books and conference proceedings.

Although best known for his research in dielectrophoresis and polymer physics, Pohl's almost half-century scientific career spanned several areas in chemical and biological physics. His research, both theoretical and experimental, bears the stamp of originality and versatility. His paper on the possibility of an organic magnet and his more recent involvement in possible electromagnetic radiation from growing cells typify the boldness of his approach. Furthermore, Pohl had a vision of science being used to benefit mankind; this humanitarian spirit, so evident in his dealings with colleagues and associates, also motivated the direction of his research efforts. In

recent years one of his consuming interests—of which there were many, including poetry, painting and a barbershop quartet—was to study the biophysical basis of cellular processes in the hope of one day contributing to an understanding of cancer. At one time Pohl was a regional director of the Oklahoma laboratory of the National Foundation for Cancer Research, and he established the Pohl Cancer Research Lab in Stillwater. Having been stricken as he worked in his lab, he was committed to his research to the last breath of his life; quite a few of his contributions are awaiting posthumous publication.

PAUL A. WESTHAUS
N. V. V. J. SWAMY
Oklahoma State University
Stillwater, Oklahoma

Robert Narvaez Little Jr

Robert N. Little, professor of physics and science education at the University of Texas at Austin and an internationally renowned leader in physics education, died in Austin on 21 May 1986 at the age of 73.

Little was an experimental nuclear physicist. His first research was on fast-neutron scattering from heavy elements. He began this work as part of his PhD dissertation, which he completed in 1943 at Rice University, and it provided the basis of all his latter scientific interests. He returned to these studies at Texas after a brief period as an assistant professor at the University of Oregon and as a research scientist working during World War II on airborne fire-control systems. In the late 1940s and early 1950s, he performed some of the early measurements of polarized neutrons from D–D reactions. Later his interests turned to reactor physics, particularly to the design of lightweight reactors for portable and airborne systems. He carried out this work through consulting arrangements with a number of laboratories, including Los Alamos and Sandia National Labs and the Bendix, Texas Nuclear and Kaman Nuclear corporate labs. In 1953 he joined General Dynamics in Fort Worth, serving as chief of nuclear physics until 1955, when he returned to the University of Texas as professor of physics. From 1955 to 1973 he served as the University of Texas representative on the Council of Oak Ridge Associated Universities.

For the latter half of his life Little's primary interest, and the focus of his efforts, was increasing the use and understanding of physical science in two special areas: pre-college instruction, and education and research in