

obituaries

become Director of the National Science Foundation, an office he assumed on 1 July 1963. He brought the Foundation to maturity at a time that saw great expansion of Federal support for the conduct of basic science. He guided the development of a program that increased the number of high-quality institutions across the nation, and he pioneered NSF efforts to link fundamental science to applied science and technology.

In 1969, he returned to AUI as special assistant to the president. Following his retirement in 1977, he continued as a consultant to the AUI president and the Brookhaven director.

For his work during World War II, Haworth received the President's Certificate of Merit. A mesa in the Antarctic and an asteroid have been named in his honor. He was the recipient of many honorary degrees.

The name of Haworth is synonymous with meticulous care for the work at hand. His traits of objectivity, attention to detail and sensitivity to the problems of others influenced all who worked with him. The institutions for which he worked have been left with a rich Haworth heritage.

GERALD F. TAPE
Associated Universities, Inc.
Washington, D.C.

Nigel J. Shevchik

Nigel J. Shevchik, assistant professor of physics at the State University of New York, Stony Brook, died 23 February.

Shevchik was born on 4 April 1945 in England, of American parents. He was educated at Carnegie-Mellon (BS, 1967) and Harvard (MS, 1969; PhD, 1972). In March 1972 he joined the newly-founded Max Planck Institute for Solid State Research in Stuttgart, Federal Republic of Germany. In 1975 he joined the faculty at Stony Brook. His research resulted in nearly 100 publications on the structure and electron spectroscopy of solids. At Harvard he developed improved methods for producing electrolytic amorphous germanium, made x-ray diffraction studies and theoretical models for the structure of various amorphous materials, and devised theoretical models for the deposition process. At Stuttgart he took principal responsibility for launching a large effort in photoelectron spectroscopy, which became enormously productive during his 3½-year stay, resulting in many papers on the relation between energy bands and photoemission spectra. At Stony Brook he set up a laboratory and performed a series of experiments on the angle-resolved ultraviolet photoemission spectra of noble metals. He also used the EXAFS technique for studying local atomic structure and began applying it to surfaces. His first PhD student gradu-

ated in December 1978.

Shevchik was a man of great energy and ambition and had a rare capability for getting things done. He was impatient with complicated explanations and had a gift for creating imaginative simpler ones. This trait involved him in many scientific disputes; he was one of the most courageous and controversial figures in his field. Even his close associates were not spared his skepticism, which was always tempered with humor. By his premature death the physics community has been deprived of a brilliant innovator and much-needed gadfly. His friends and associates are deprived of a man of great courage, decency and humanity. He will be remembered with affection.

WILLIAM PAUL
Harvard University
MANUEL CARDONA
Max Planck Institute
Stuttgart, Federal Republic of Germany
PHILIP B. ALLEN
State University of New York
at Stony Brook

Jens Rud Nielsen

Jens Rud Nielsen, George Lynn Cross Research Professor of Physics Emeritus at the University of Oklahoma, died 20 April at his home in Norman. Born in 1894 in Copenhagen, he graduated with an MS from the University of Copenhagen in 1919. He attended the newly founded California Institute of Technology on an American-Scandinavian Fellowship, receiving one of the first PhD's awarded there in 1924. After a year at Humboldt State College, he joined the University of Oklahoma faculty where he remained until his retirement. His intense interest in research became the stimulus not only for research in physics at the University of Oklahoma, but throughout the University, a fact recognized by the award in 1944 of the first of the newly instituted positions of Research Professor.

His original research interest was the photoelectric effect, but he shifted to molecular structure as elucidated by infrared and Raman spectra and became one of the leading exponents of this field. In 1931 he was awarded a John Simon Guggenheim fellowship for study at the Bohr Institute where he renewed his early acquaintance with Niels Bohr. He remained a second year as Rask-Oersted fellow, and returned to Norman in the depths of the Depression to find that any effort to do research had become doubly difficult in his absence. However, the relationship established with the Bohr family more than compensated, since it led Bohr to Norman on several occasions during the next thirty years, one of the visits being under his illustrious wartime pseudonym "Nicholas Baker."

Nielsen's tenure at the University of



NIELSEN

Oklahoma coincided with the evolution of that institution from a large four-year college to a comprehensive graduate institution and community of research scholars. There is little doubt that his example and his strength of personality played a major role in this transition. In recognition he was inducted into the Oklahoma Hall of Fame in 1971 and the Physics building was named Nielsen Hall upon his retirement in 1965.

He was an associate editor for *American Journal of Physics*, *Journal of Chemical Physics*, and *Journal for the Optical Society of America*. But his most momentous effort was reserved for his years of retirement when he assumed the major responsibility for the production of the first five volumes of the ceremonial edition of Bohr's memoirs at the invitation of the Bohr Institute and the Danish government. He acted as chief translator for four languages, volume editor, and finally general editor for the series. It was a thrilling reward to him when the Danish Prime Minister chose this monumental work as a presentation gift to Mao Tse Tung during his visit to China in 1974. His intelligent, unobtrusive and diligent effort will be hard to replace in today's world.

RICHARD G. FOWLER
University of Oklahoma

Dmitrii Ivanovich Blokhintsev

Dmitrii Ivanovich Blokhintsev died 28 January at the age of 71. Blokhintsev was best known to Western physicists as the director of the first Soviet nuclear power station at Obninsk (1950-56) and the first director of the Joint Institute for Nuclear Research in Dubna (1956-64), as well as head of the Theoretical Physics Laboratory there (since 1964). He was president



BLOKHINTSEV

of IUPAP in 1966 and a corresponding member of both the Soviet and Ukrainian Academies of Science and a foreign member of numerous East-European Academies. He was awarded the Stalin Prize in 1952 and the Lenin Prize in 1957.

Blokhintsev graduated from Moscow University in 1930 and received his doctorate in theoretical physics in 1937. During the 1930's he was interested in atomic and solid-state physics (phosphorescence of solids, fluorescence of complex molecules, semiconductors and magnetism). During World War II he was involved in research on underwater acoustics and submarine detection (which resulted in a postwar book on propagation of sound in a moving medium). He became a member of the Communist Party in 1943 and was always interested in reconciling Marxist ideology and the principles of quantum mechanics (as illustrated by the appendices to the various editions of his text on quantum mechanics and a later book on the philosophical problems of quantum mechanics). He was an outspoken advocate of the view that the wave function is to be associated to an ensemble, but his views otherwise differed little from those of many Western physicists, and he strongly objected to the ideologically inspired attempts by some French physicists to modify quantum mechanics; he seemed inclined to adapt dialectical materialism to the facts of quantum mechanics, rather than vice versa.

In addition to his contribution to the development of fast-pulsed reactors and coordination of the first nuclear power plant in the world, he was deeply interested in elementary-particle physics, a field in which he became actively involved after becoming director of Dubna.

In 1957, when I was at Dubna, he was

concerned with the role weak interactions play in elementary-particle physics, and together we investigated "weak corrections" to electromagnetic interactions. Blokhintsev headed a small group of theorists involved with problems of multiple-particle production, nonlocal-field theories and related topics.

In spite of his multiple administrative duties and his research, teaching and writing activities, Blokhintsev had a wide range of other interests. He was interested in genetics, for example, and apparently made it possible for real genetics to be pursued at the nuclear power station, sheltering some Soviet geneticists from the (now discredited) Lysenko purges; Lysenko had no access to the "closed" institutions of the Atomic Energy Committee, whose head was none other than the dreaded Beriya.

Contrary to initial impressions, Blokhintsev, on closer acquaintance, turned out to be a warm personality, with interests in art, literature and philosophy (not only Marxist). In his library one could find manuscript versions of Pasternak's poetry, as well as the latest American best sellers. He had a fine sense of humor and worked hard for more open exchanges of scientists between the USSR and the West.

MEINHARD E. MAYER

University of California, Irvine

C. Paul Boner

C. Paul Boner, well-known physicist and acoustical consultant, died in Austin, Texas on 12 April. He was 79 years old. A former president of the Acoustical Society of America, Boner was a leading expert on underwater sound defense. He was twice recognized by the US government for his work on anti-submarine weapons and special torpedoes at Harvard University's Underwater Sound Laboratory during World War II.

Boner was associated with The University of Texas throughout most of his professional career. He earned three physics degrees there—a BA in 1920, a MA in 1922, and a PhD in 1929. Appointed a physics assistant at the Austin campus of the university in 1919, Boner joined the faculty as an instructor in 1922. From 1949 to 1954, he became dean of the College of Arts and Sciences and added the title of dean of the university faculty in 1953. Boner held the post of vice president of the university from 1954 to 1957. He founded the university's former Defense Research Laboratory (now Applied Research Laboratory) in 1945, served as its director until 1965 and was a consultant thereafter. Boner also established the Office of Government Sponsored Research (now Office of Sponsored Research) in 1949 and was its executive director from 1949 to 1954, and again from 1957 to 1965. □

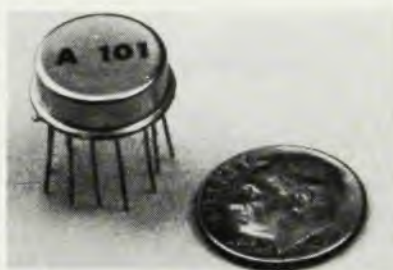
NEW PRODUCT

CHARGE SENSITIVE PREAMPLIFIERS



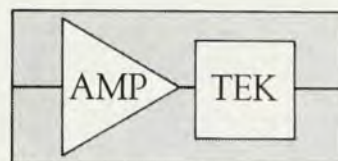
Models A-203 and A-206 are a Charge Sensitive Preamplifier/Pulse Shaper and a matching Voltage Amplifier/Discriminator developed especially for instrumentation employing solid state detectors, proportional counters, photomultipliers, channel electron multipliers or any charge producing detectors in the pulse height analysis or pulse counting mode of operation.

These hybrid integrated circuits feature single supply voltage, low power dissipation (16mW), low noise, pole zero cancellation, unipolar and bipolar outputs and adjustable discrimination level.



Model A-101 is a Charge Sensitive Preamplifier-Discriminator and Pulse Shaper developed especially for instrumentation employing photomultipliers, channel electron multipliers and other charge producing detectors in the pulse counting mode. Its small size (TO-8 package) allows mounting close to the collector of the multiplier. Power is typically 15 milliwatts and output interfaces directly with C-MOS and TTL logic. Input threshold and output pulse width are externally adjustable.

All Amptek, Inc., products have a one year warranty.



AMPTEK INC.

6 DeAngelo Drive, Bedford, Mass 01730
Tel: (617) 275-2242

Circle No. 32 on Reader Service Card