

obituaries

Iowa prior to joining the applied physics laboratory of the Johns Hopkins University as a research physicist in 1951. He also served at the Office of Naval Research and in 1956 became a research physicist at the National Bureau of Standards where he worked in the free radicals program and the statistical physics section. In 1961 he joined Howard University as professor of physics. In 1969 he came to Wayne State University as professor and chairman of the department of chemical engineering and material sciences, a post he resigned this June in order to devote more time to teaching and research.

Among his earliest works were pioneering efforts concerning the derivation for general quantum systems of the relation between spontaneous-equilibrium fluctuations and transport coefficients. This interest in the theory of transport and the origins of irreversibility continued throughout his career.

A significant part of Jackson's contribution occurred during his participation in the free radical program at the National Bureau of Standards. There he worked on the distribution of trapped radicals, their reactions, stability, mechanisms of trapping and interaction with magnetic fields. Concurrently, his interest in polymers was stimulated and he and his students made several contributions to the theory of diffusion in polyelectrolytic solutions. There was also work on the theory of potentials in electrolytes, polymer crystallization, rubber elasticity and the physics of plasmas.

Those of us who were associated with him as colleagues in research and teaching will attest to his outstanding physical intuition and his ability to translate his insight into mathematical form.

Jackson also served the scientific community through intense concern for others, active membership in professional societies, support of the arts and an active interest in our political life. In his last years at Wayne he played a key role in the growth and maintenance of a substantial applied-science community in the college of engineering. His many friends and colleagues the world over mourn his loss.

R. A. PICCIRELLI
M. P. SHAW

Wayne State University
Detroit, Michigan

Frank L. Robeson

Frank L. Robeson, 90, professor emeritus of physics at Virginia Polytechnic Institute and State University, died on 2 September.

He received his BS degree from Virginia Tech, a Masters Degree from Columbia University and a PhD from Johns Hopkins University. He joined the VPI faculty in 1904, and headed the physics department from 1923 to 1954. In 1969 VPI honored him by naming its new physics building Robeson Hall. Known to many faculty members and students as "Scribe," he was the author of a textbook in physics.

Robeson was one of the first recipients of the George B. Pegram Medal presented by the Southeastern Section of American Physical Society for excellence in teaching. He also received the VPI Alumni Association's Distinguished Service Award. Robeson's death is a loss to the physics community generally and especially to those of us fortunate enough to have known him. He was an affectionate teacher and a distinguished scholar.

H. Y. LOH
M. A. IJAZ

Virginia Polytechnic Institute
and State University
Blacksburg, Virginia

Victor William Cohen

Victor William Cohen, molecular-beam physicist at the Brookhaven National Laboratory, died on 17 August at the age of 63.

Cohen earned his doctorate in 1934 from Columbia University, where he



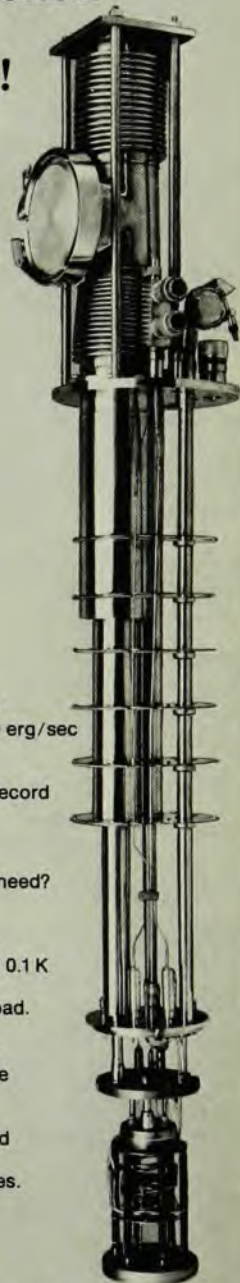
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worked under the direction of Isidor I. Rabi. During 1931-34 Rabi and Cohen became the first researchers to use molecular beams to measure nuclear spins, initially applying the technique to sodium and cesium. These elements were particularly interesting because of the uncertain interpretation of optical hyperfine structure in terms of nuclear

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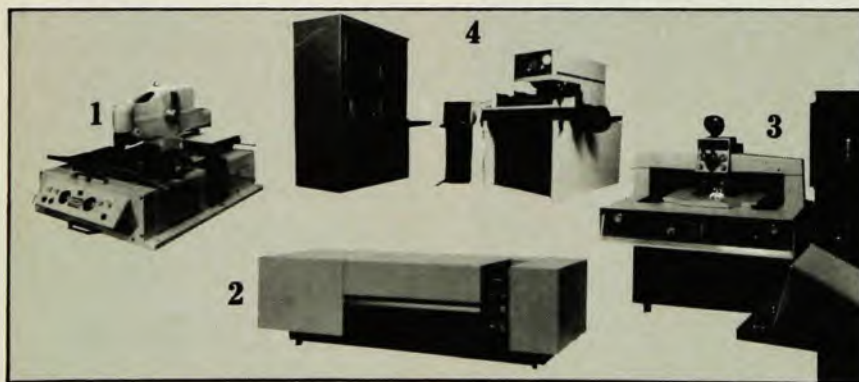
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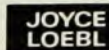


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spins and associated magnetic moments. This work demonstrated clearly that the basic understanding, as expressed by Gregory Breit and Rabi in 1931, was correct; the optical results had been misinterpreted. Continuing these studies with other co-workers, Rabi won the Nobel Prize in Physics in 1944.

Cohen worked for the US Naval Bureau of Ordnance as a civilian physicist during 1940-44. Projects included the protection of ships' magnetic compasses against degaussing equipment and later, the development of acoustically-guided anti-submarine torpedoes.

He joined the National Bureau of Standards in 1944 to work on the development of a device for precision dive-bombing. After the war he began to organize a vacuum-tube development laboratory that worked on electron tubes for both military and civilian applications.

In 1947 the Brookhaven National Laboratory, then being established, asked Cohen to join to study the measurement of nuclear spins in radioactive species. The work has continued during the past ten years, using radiofrequency nuclear resonance, microwave spectroscopy and molecular beams. Several nuclear spins have been determined.

Cohen's molecular-beam apparatus, the type used at Columbia during the 1930's by Rabi and his students, was donated in July to the Smithsonian Institution's Museum of History and Technology.

Garnett Gray

Garnett G. Gray, professor of physics at Trinity University, died on 20 July at the age of 39. Gray completed his BA at Millikin University in 1956 and his PhD at the University of Nebraska in 1964. He joined the physics faculty of Trinity University in 1962. He had done research in high-energy physics, but in recent years devoted himself primarily to undergraduate teaching and to the development of laboratory apparatus and curriculum materials. He was chapter advisor to the Society of Physics Students and served as SPS zone councilor and on the SPS national council. Gray conducted National Science Foundation summer institutes in PSSC and in project physics and was involved in several aspects of cooperative college-high-school science programs. At the time of his death he was serving as secretary-treasurer of the Texas section of the American Association of Physics Teachers.