

We mourn Bhatia's death, but we take comfort in knowing that his contributions will live as well as the memory of his kindness and charming modesty.

M. RAZAVY  
S. B. WOODS  
*The University of Alberta*

**Gifford G. Scott**

Gifford G. Scott, the discoverer of the thermomagnetic gas torque that came to be called the Scott Effect, died of a heart attack on 2 May 1984.

Scott was born in Detroit on 2 March 1909. Upon receiving his BS from the University of Michigan in 1939, he joined the General Motors Research Laboratories as a research engineer. Shortly thereafter, the Research Laboratories' founder, Charles F. Kettering, chose him as a collaborator on magnetism studies. Scott's ensuing 40-year career brought him worldwide recognition in that field.

Among his accomplishments were some of the earliest measurements of gyromagnetic and electron inertia effects. He was a pioneer in studies of the Einstein-de Haas effect, and was the first to verify the Kittel-Van Vleck theory relating the magnetomechanical and spectroscopic splitting factors. During World War II, he worked on the development of infrared detection equipment for use on submarines. In the 1950s, Scott produced early photographs of magnetic domains in ferromagnetic materials while studying single-crystal iron whiskers with Robert V. Coleman, now of the University of Virginia. His discovery in 1967 of a magnetothermal torque useful in studying the fundamental behavior of gas molecules resulted in the initiation

SCOTT



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of research programs in several universities in Europe and America; AIP sponsored a special symposium on the Scott Effect in 1970.

One of the unique features of Scott's research work was that it required nonmagnetic laboratories. Consequently, he participated in the design and construction of a series of laboratories dedicated to magnetism studies; the last of these was built at Oakland University in Rochester, Michigan, in 1969. Scott retired from the General Motors Research Laboratories in 1973. He was a fellow of the American Physical Society.

LERINDA FROST

*General Motors Research Laboratories*

## Donald E. Cunningham

Donald E. Cunningham, who served as an AIP staff officer from 1959–62, died on 6 March 1984, ending a widely ranging career in teaching, research, administration and public-policy studies.

Cunningham was born in Providence, Rhode Island on 18 May 1930, and received his PhD in physics in 1959 from Case University. While completing his doctoral work, he served as a plasma-physics group leader at Thompson-Ramo-Wooldridge, Inc. His research interests included atomic collisions, optical pumping and plasma physics.

His appointment, in 1959, to the staff at AIP in the newly formed Department of Education turned his attention to the challenge of national problems in physics education. His first assignment was as administrator of the Visiting Scientists Program in Physics, jointly conducted by AIP and AAPT, and comprising three distinct programs: one directed toward colleges, another toward high schools and a third that arranged visits by distinguished foreign physicists. Later he took over the AIP Student Section program and developed the Bendix awards project within it. The impetus he gave the program eventually led to the Section's merger with Sigma Pi Sigma into the Society of Physics Students. Cunningham regarded this work as one of his proudest achievements.

In 1970, after teaching physics for several years—first at Adelphi University, where he eventually became the director of programs in the space-related sciences, then at Miami University in Ohio, where he also served as dean of research and established the Institute of Environmental Sciences—Cunningham became a special assistant to the director of NSF, with responsibilities for policy studies of the



CUNNINGHAM

role of science in regional development. This interest led him to join the University of Denver Research Institute in 1974, where he studied regional resource development. In 1979, he and several colleagues formed the independent Center for Public Issues; he became director and worked for this organization until his death.

Cunningham will be best remembered by his former associates at AIP for his wit, his friendliness and his missionary zeal: he once taught a lunch-hour course in basic physics to the support staff at AIP "to institute some physics at the American Institute of Physics."

WILLIAM C. KELLY  
*Bethesda, Maryland*

## Winfred M. Schwarz

Winfred M. Schwarz, emeritus professor at Union College in Schenectady, died 3 May 1984, at age 70.

Born in St. Louis, he received his BS and MS degrees from Washington University, and his PhD in 1941 from Ohio State. Schwarz came to Union College in 1946 as an assistant professor, and was appointed to the Frank Bailey Professorship in 1975. Until his retirement in 1979, he taught the College's electricity and magnetism course almost continuously, producing the textbook *Intermediate Electromagnetic Theory*, which was well received. Other interests led to calculations modeling thermal effects in geologic flow associated with plate tectonic movements, with Stephen E. DeLong and Roger Anderson of the State University of New York and Lamont-Doherty Laboratory. He continued these studies after retirement, working actively until a few months before his death.