

the first to document ohmic heating, anomalous transport across the magnetic field, radiofrequency plasma heating at the lower-hybrid frequency, and nonlinear cyclotron harmonic interactions. From 1972 to 1976 Bob was group leader for the Adiabatic Toroidal Compressor tokamak at Princeton. Bob was a member of DOE's Compact Toroid Coordination Committee, and he and Masaaki Yamada headed the Spheromak project. In 1988 Bob was appointed head of experimental projects at PPPL, putting him in charge of all non-TFTR experimental work.

During his later years, Bob devoted much of his time to furthering international collaboration in science. In 1969 he spent six months at the Institute of Nuclear Physics in Novosibirsk, USSR, and from 1971 to 1973 he was foreign secretary of the Advisory Committee on the USSR and Eastern Europe of the National Academy of Sciences. From 1976 to 1978 he was a member of the Science Advisory Committee for the NASA Research Laboratories. After that, he served for two years as head of the physics section of the International Atomic Energy Agency in Vienna. In 1984 Bob became the US representative to the Commission on Plasma Physics of the International Union of Pure and Applied Physics.

The two aspects of Bob's personality that were best known to his colleagues were his ability to come up with relevant information on almost any topic and, above all, his flashing wit. No one had a quicker eye for humbug in science, society or individuals. At a colloquium some 25 years ago, one speaker tried—with persistence, but in vain—to reconcile some turbulence data that suggested an f^{-3} spectrum with a theory requiring an f^{-5} dependence. Bob's comment that the agreement seemed perfectly adequate "for large values of 3" has remained part of the collective memory at PPPL.

If his erudition and wit were obvious on contact, his more serious side came out on closer acquaintance. He had a deep and gentle understanding of people—their hopes and ambitions, their motivations and frustrations.

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Norman Pedersen

Norman Pedersen, vice president for research at Panametrics in Waltham, Massachusetts, died on 30 October 1989.

Pedersen was born in Pittsburgh, Pennsylvania, in 1927. He graduated from Rensselaer Polytechnic Institute in 1953 and obtained his doctorate under J. Mayo Greenberg at RPI in 1964. From 1961 to 1969 he was a principal consulting scientist at Avco Corporation, Research and Advanced Technology. His work there led to the formation of Avco's applied physics section, of which he was chief until 1967. In 1969 Pedersen joined Panametrics as a vice president and headed the applied physics department.

While Pedersen was at Avco, his chief scientific interests were microwave-plasma interactions, microwave scattering techniques and interactions between lasers and materials. He discovered a new resonance effect in the electromagnetic absorption of small plasma spheres, and he formulated the idea that thin wires of high aspect ratio could be used as broadband obscuring. This latter proposal has received renewed research interest in the last few years, and Pedersen was still working on it at the time of his death.

Pedersen's research at Panametrics was mainly in radar electromagnetic scattering theory, ultrasonics, infrared technology and electronics. He was responsible for state-of-the-art developments in ultrasonic flow metering and flaw detection, radar signal processing and optical sensing techniques.

Pedersen's friends and colleagues will remember him as a scientist who could "feel" good ideas, translate them into theoretical models and relate them to experiments and applications. He obtained the respect and loyalty of the people around him, particularly those who had the good fortune to know him well.

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Guy C. Omer Jr

Guy C. Omer Jr, professor emeritus of physical sciences, physics and astronomy at the University of Florida, died on 16 September 1989 after a long illness following heart surgery.

Omer was born in Mankato, Kan-

sas, on 20 March 1912. He received his bachelor's degree in electrical engineering in 1936 and his master's degree in physics in 1937, both from the University of Kansas. During most of World War II Omer was in Hawaii, where he spent two years on the faculty of the University of Hawaii. He earned his PhD in physics from Caltech in 1947, under the supervision of Richard C. Tolman. In 1955, after spending five years on the faculty at the University of Chicago, Omer accepted a professorship at the University of Florida.

Omer was perhaps best known in astronomical and cosmological circles for his papers on nonhomogeneous cosmological models and on the Coma cluster of galaxies. Although he was very much a theorist, he had many of his students analyze photographic plates to obtain galaxy distribution data for comparison with their theoretical conclusions, and he maintained a lively interest in new experimental developments. Omer also published papers on seismology and, in later years, on the history of science. His courses in the history of astronomy were popular with students, as was his graduate course in general relativity, which was often attended by other faculty members.

Omer had an abiding commitment to general education, which he credited in part to his years at Chicago, where he held a joint appointment in the University College. From 1967 to 1972 he was chairman of the University of Florida's department of physical sciences, which at that time coordinated the comprehensive undergraduate science courses required of all students not majoring in science. He considered one of his principal achievements the publication of *Physical Science: Men and Concepts* (Heath, 1962), a textbook for nonscience majors that he coauthored with Harold L. Knowles, B. W. Mundy and W. Herbert Yoho.

Omer had many interests: numismatics, travel, food, sound reproduction, book collecting, orchid growing, ferroequinology and baroque music (a hobby that he pursued avidly by collecting and playing many 17th-century instruments).

Omer's colleagues and friends will remember his love of humor, particularly verbal circumlocutions. He was a gentle Quaker whose commitment to peace and social justice was unwavering.

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