KRUER RECEIVES 1990 MAXWELL PRIZE FROM APS

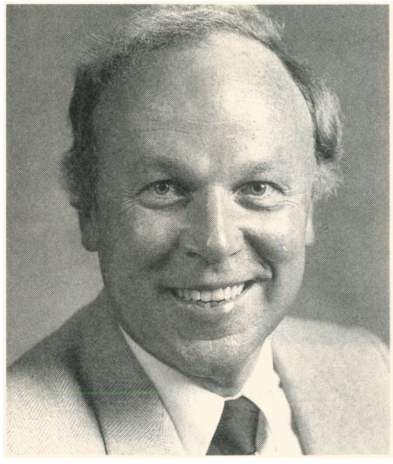
The American Physical Society recently honored several individuals for outstanding research achievements in plasma physics.

At its meeting in Cincinnati, Ohio, last November, the APS division of plasma physics presented the 1990 James Clerk Maxwell Prize to William L. Kruer of Lawrence Livermore National Laboratory. The division cited Kruer "for outstanding and seminal contributions to the theoretical and experimental understanding of the interaction of intense electromagnetic waves with plasmas and for numerous contributions to the understanding of basic plasma phenomena via numerical simulation." Kruer has studied many processes related to intense laser–plasma interactions, including resonance absorption, parametric decay, stimulated Brillouin and Raman scattering and the two-plasmon decay instability. His work has been applied to laser-driven inertial fusion, free-electron lasers, space plasmas and wave heating of tokamaks.

Kruer earned a PhD in astrophysics from Princeton University in 1969. From 1969 to 1972 he worked at the Princeton Plasma Physics Laboratory. In 1972 he moved to Livermore, where he is currently associate division leader for plasma physics in the inertial-confinement fusion program.

Also at the November meeting, E. Michael Campbell, Peter L. Hagelstein, Dennis I. Matthews, Mordecai D. Rosen and Szymon Suckewer received the 1990 APS Award for Excellence in Plasma Physics Research. The purpose of this award is to recognize a recent achievement in the field. The 1990 winners were cited for "the first laboratory demonstration of a soft x-ray laser, achieved through pioneering laser target design, theoretical modeling of the states of highly ionized atoms in laser produced plasmas and novel spectroscopic diagnostics of such plasmas."

William L. Kruer



Campbell, Hagelstein and Rosen were part of a Livermore group led by Matthews, which first demonstrated a 206 Å selenium x-ray laser in the spring of 1984. Suckewer led a separate group at the Princeton Plasma Physics Laboratory, which developed a 182 Å carbon soft x-ray laser.

Campbell received a PhD in applied physics, aerospace and mechanical sciences from Princeton in 1977. He then joined Livermore, where he is currently a program leader in the laser program.

Hagelstein earned a PhD in electrical engineering and computer science from MIT in 1981. From 1975 to 1985 he was a staff physicist at Livermore. In 1986 he became an associate professor of electrical engineering and computer science at MIT.

Matthews received a PhD in atomic physics from the University of Texas, Austin, in 1974. He is currently group leader in the inertial confinement fusion program for the development of laboratory x-ray lasers and their applications at Livermore.

Rosen earned a PhD in plasma physics from Princeton in 1976. He is currently division leader in the plasma physics and laser fusion target design program at Livermore.

Suckewer received a PhD in plasma physics in 1966 and a doctorate in 1971 from Warsaw University in Poland. In 1975 he emigrated to the US and joined the Princeton Plasma Physics Laboratory, where he is currently the head of the x-ray laser project. In 1988 he became a professor in the mechanical and aerospace engineering department at Princeton.

Also presented at the November meeting was the Simon Ramo Award for an outstanding doctoral thesis in plasma physics, which went to Margaret Murnane of Washington State University. Murnane's thesis, entitled "Subpicosecond Laser-Produced Plasmas," was cited by the division for "all aspects of a benchmark experiment opening up the new field of high-density, high-temperature plasmas created by ultrashort laser pulses." Murnane did her graduate work at the University of California, Berkeley, where she developed the laser system and diagnostics to demonstrate the production of picosecond x-ray pulses from short-lived laser-produced plasmas.

After receiving a PhD in physics in 1989, Murnane remained at Berkeley for one year as a postdoctoral fellow. In 1990 she became an assistant professor of physics at Washington State.

IN BRIEF

The Continuous Electron Beam Accelerator Facility in Newport News, Virginia, has made some high-level additions to its staff in the past year. **Fred Dylla,** most recently head of the operations branch at the Princeton Plasma Physics Laboratory, is now an associate division manager at CEBAF. Dylla's appointment became effective in October. **Nathan Isgur,** formerly a physics professor at the University of Toronto, became head of theory at CEBAF last July. And **George Neil** has left his position as a senior scientist in TRW's defense and space systems group to become head of the linac department at CEBAF, where he started working last April.

OBITUARIES

Robert A. Ellis Jr

A pioneer in modern experimental plasma physics, Robert A. Ellis Jr, died on 15 December 1989 at the age of 62. He was head of experimental projects at the Princeton Plasma Physics Laboratory, where he had worked since 1956.

Bob received a BA from Fisk University in 1948 and an MS from Yale in 1949. Immediately thereafter, he became an instructor at the Tennessee Agricultural and Industrial State College in Nashville, an all-black and mostly undergraduate school that later evolved into Tennessee State University. While on leave from Tennessee A&I Bob completed his PhD work at the University of Iowa. There Bob was the first doctoral student of James Van Allen, who urged him to seek a position at a research university. But Bob's commitment to black education and his loyalty to Tennessee A&I led him back to that institution, where he was soon promoted to a full professorship.

In 1956 seeing a unique opportunity to participate in a new field, Bob went to Princeton to join Project Matterhorn, the small group, then headed by Lyman Spitzer Jr., working on controlled fusion. At Project Matterhorn (now the Princeton Plasma Physics Laboratory) Bob became a key member of the team studying the magnetic confinement and heating of plasmas in stellarators. Their published papers on the B-1 and B-3 devices were

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.

KEES BOL
HAROLD P. FURTH
MELVIN B. GOTTLIEB
LYMAN SPITZER JR
THOMAS H. STIX
MASAAKI YAMADA
Princeton University
Princeton, New Jersey
JAMES A. VAN ALLEN
University of Iowa
Iowa City, Iowa

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 obscurants. 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.

IAN L. SPAIN
Colorado State University
Fort Collins, Colorado
RUSSELL YOUNG
National Institute of Standards and Technology
Gaithersburg, Maryland

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, Kansas, 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.

F. EUGENE DUNNAM
THOMAS D. CARR
SAMUEL B. TRICKEY
University of Florida
Gainesville, Florida ■