

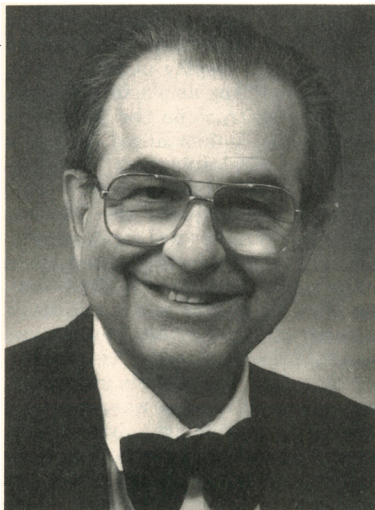
APS AWARDS HIGHLIGHT WORK IN PHYSICS SUBFIELDS

Several subunits of The American Physical Society—the division of plasma physics, the division of fluid dynamics and the topical group on shock compression—presented awards in 1991, in recognition of outstanding research in their respective fields.

At the November meeting of the division of plasma physics, the James Clerk Maxwell Prize was presented to Hans R. Griem of the University of Maryland, College Park. Griem was cited for “his numerous contributions to experimental plasma physics and spectroscopy,” particularly in the area of improved diagnostic methods for high-temperature plasmas. His contributions have included electron temperature measurements from x-ray continuous emission and measurements of plasma satellite lines in turbulent electric fields. Griem is also the author of *Spectral Line Broadening by Plasmas* (Academic Press, New York, 1974) and *Plasma Spectroscopy* (McGraw-Hill, New York, 1964), which the citation said “have become standard references in the field.”

Griem earned a PhD in physics from the University of Kiel in 1954

Andreas Acrivos



and joined the University of Maryland faculty the same year. Since 1963 he has been a professor of physics there. He directed the university's Laboratory for Plasma Research from 1980 to 1987.

Also at the plasma physics meeting, the 1991 Award for Excellence in Plasma Physics went to Charles F. Driscoll, John H. Malmberg and Thomas M. O'Neil, a research group at the University of California, San Diego. The three were cited for “their pioneering and imaginative theoretical and experimental research in nonneutral plasmas. Their research in basic plasma physics has substantially enhanced our understanding of nonequilibrium, transport and relaxation processes in plasmas.” Their work has led to the understanding of the relaxation of anisotropic velocity distributions in single-component plasmas and to the elucidation of various transport processes in these systems. They have also studied two-dimensional fluid mechanics using pure electron plasmas as the working fluid.

Driscoll earned a PhD in physics from UCSD in 1976, and he is currently a research physicist and senior lecturer there.

Malmberg received a PhD in physics from the University of Illinois in 1957. He then worked for General Atomic Corp, until he became a professor of physics at UCSD in 1967.

After earning a PhD in physics from UCSD in 1965, O'Neil worked for General Atomic. In 1967 he joined the faculty at UCSD, where he is now a professor of physics.

Also at the plasma physics meeting, Robert K. Kirkwood received the 1991 Simon Ramo Award for his thesis, “Measurement of Suprathermal Electrons by Cyclotron Transmission in the Versator II Tokamak.” Kirkwood devised a technique for determining the momentum distribution of suprathermal current carriers and then applied his technique to lower hybrid current

drive and to low-density inductive current drive discharges.

Kirkwood did his doctoral work at MIT, from which he received a PhD in applied plasma physics in 1989. After serving as a postdoctoral fellow at Caltech, he became a National Research Council research associate at the Air Force Phillips Laboratory in Massachusetts.

At the November meeting of the division of fluid dynamics, Andreas Acrivos of City College of the City University of New York received the 1991 Fluid Dynamics Prize. The prize, which is sponsored by the Office of Naval Research, was given to Acrivos for his “outstanding research in fluid mechanics, characterized by unusual physical insight, intellectual rigor and breadth.” Acrivos has made contributions to asymptotic theories of convective transport processes, low-Reynolds-number hydrodynamics, boundary layer separation, suspension mechanics and the dynamics of bubbles and drops. He was also cited for his efforts as a leader and educator in the fluid mechanics community.

After earning a PhD in chemical

Hans R. Griem



engineering from the University of Minnesota in 1954, Acrivos joined the chemical engineering faculty at the University of California, Berkeley. Eight years later he became a professor of chemical engineering at Stanford University. In 1988 Acrivos moved to City College, where he now holds one of New York State's Albert Einstein Chairs in Science.

In addition, the fluids dynamics division honored Steven A. Orszag of Princeton University, who received the Otto Laporte Award. Orszag was chosen for his "many contributions to computational fluid dynamics, especially to the numerical investigation of nonlinear instability mechanisms in fluids, the onset of chaotic motions and the transition to turbulence, and for his contributions to the development of spectral methods of the solution for the Navier-Stokes equations."

Orszag received a PhD in astrophysics from Princeton in 1966, and from 1967 to 1984 he was a professor of applied mathematics at MIT. He joined Princeton's faculty in 1984 and was named director of the program in applied and computational mathematics there in 1990.

At the June 1991 meeting of the APS topical group on shock compression, Lev Vladimirovich Al'tshuler of the Russian Academy of Sciences received the Shock Compression Science Award. He was given the award "in recognition of seminal and major contributions in the development of the shock wave compression field of condensed matter." Although classification delayed the publication of much of his work in the late 1950s and 1960s, he is considered a pioneer in using explosives as a pressure-generating mechanism for equation-of-state studies. Among other things, Al'tshuler developed the impedance-matching technique in the late 1940s (published in 1958).

Al'tshuler received a physics degree from Moscow State University in 1936. From the late 1940s to the late 1960s he worked at what is now called the All-Union Scientific Research Institute for Experimental Physics, located in the Nizhny Novgorod region. He then returned to Moscow, where he did research at a number of institutes. He is currently a researcher at the Institute for High Temperatures of the Russian Academy of Sciences.

tech, who spoke on his area of expertise, black holes and gravitational waves. Among other things, Thorne "developed much of the mathematical formalism by which astrophysicists analyze the generation of gravitational waves," the award citation said. Thorne is currently the chief theorist for the Caltech-MIT Laser Interferometer Gravitational Wave Observatory, commonly referred to as Project LIGO. With John A. Wheeler and Charles W. Misner, Thorne coauthored the textbook *Gravitation* (Freeman, San Francisco, 1973).

After earning a PhD in theoretical physics from Princeton University in 1965, Thorne served two years as a postdoc there and then moved to Caltech. In 1991 he was named the first Feynman Professor of Theoretical Physics at Caltech.

Also at the January meeting, distinguished service citations were presented to six individuals: Lawrence Bader, assistant to the dean of mathematics and natural science at Case Western Reserve University; Robert Beck Clark, a professor of physics at Texas A&M University; W. Edward Gettys, a professor of physics at Clemson University; Priscilla Laws, a professor of physics at Dickinson College; Richard Peterson, a professor and chair of the physics department at Bethel College; and John Risley, a professor of physics at North Carolina State University.

PHYSICS TEACHERS HONOR RESEARCH AND SERVICE

At the January meeting of the American Association of Physics Teachers, several individuals were recognized for their research and service contributions.

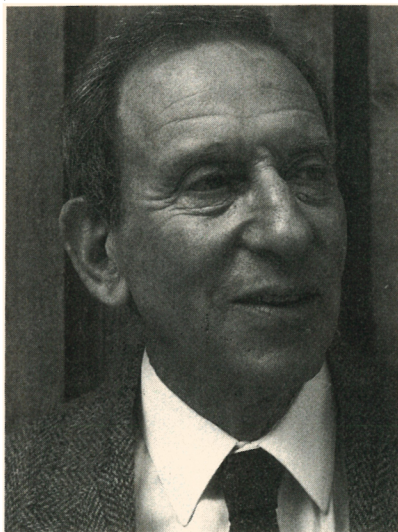
The Oersted Medal, which recognizes contributions to physics teaching, went to Eugen Merzbacher of the University of North Carolina at Chap-

el Hill. The award citation praised Merzbacher's textbook on quantum mechanics, his teaching efforts at North Carolina and his physics demonstrations, which he has used in colloquium talks and also as a participant in the American Institute of Physics's visiting scientist program. Merzbacher was active in the initial stages of the Introductory University Physics Project and has given numerous lectures on the need to reinvigorate introductory physics courses. As part of the award, Merzbacher gave a lecture entitled "Frills or Fundamentals, Fervor and Phobia," which dealt with the desirability of integrating 20th-century physics into introductory courses.

Merzbacher earned a PhD in physics from Harvard in 1950. He joined the University of North Carolina faculty in 1952. He became the Kenan Professor of Physics in 1969 and served as chairman of the department from 1977 to 1982. His research in theoretical physics has focused on general problems in quantum mechanics and collision theory in nuclear and atomic physics.

This year's Richtmyer Memorial Lecturer was Kip S. Thorne of Cal-

Eugen Merzbacher



OBITUARIES

Edwin H. Land

Edwin H. Land, founder of the Polaroid Corporation, died in Cambridge, Massachusetts, on 1 March 1991.

As a scientist and inventor, Land was fascinated by light and its interactions with matter. This work has a compelling immediacy: Witness the liquid crystal display in your watch, brought to life by its plastic polarizer, or the crisp trace on the face of an oscilloscope, immortalized within a minute as a Polaroid print. As entrepreneur and businessman, Land founded and inspired the Polaroid Corporation, renowned for its innovative products and enlightened social conscience. As adviser to Presidents, he played a pivotal role in the development of high-altitude aircraft and satellite reconnaissance. He supported education, particularly undergraduate research. And he was a patron of the arts, particularly architecture, endowing and helping to create the Cambridge house of the American Academy of Arts and Sciences. Much