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ion as cofounder of the international organization Scientists for Sakharov, Orlov and Sharansky; for his leadership, during a critical period, of the APS committee for the international freedom of scientists; and for his patient, thoughtful and motivational interaction with students and younger colleagues."

Carey Forest, a research staff member at the Princeton Plasma Physics Laboratory, will be presented with the Simon Ramo Award at the plasma physics meeting. APS credits Forest with "the invention of a method to create and sustain tokamak configuration by the innovative use of electron cyclotron heating alone."

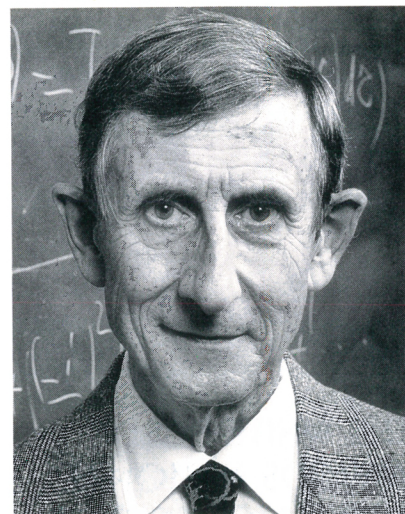
In addition to the above, APS presented two awards last April during its meeting in Crystal City, Virginia.

John Dawson, a professor of physics at the University of California, Los Angeles, was awarded the Aneesur Rahman Prize. Dawson was chosen for "his leading role in opening the field of computer simulation of plasmas and for numerous major contributions made using plasma simulation as a complement to analytic theory and experiment." Dawson, the citation also said, "has led in opening the field of plasma-based accelerators and made major advances in understanding basic nonlinear plasma-wave processes, anomalous absorption and transport, advanced plasma-based coherent light sources and space plasma phenomena."

Also at the April APS meeting, the Doctoral Thesis Award for Atomic, Molecular and Optical Physics went to **Dmitri Budker**, whose thesis, "Investigation of Nearly Degenerate Opposite Parity States in Atomic Dysprosium," was chosen from among five finalists. Budker is now a physics postdoctoral fellow at the University of California, Berkeley, working with Eugene Commins, who was his thesis adviser.

DYSON RECEIVES 1994 FERMI AWARD

President Clinton announced in late September that the government's 1994 Enrico Fermi Awards would go to **Freeman Dyson**, professor emeritus at the Institute for Advanced Study, in Princeton, New Jersey, and to Liane Russell, a geneticist at Oak Ridge National Laboratory. The Fermi Award, which carries a \$100 000 honorarium and a gold medal, is designed to recognize lifetime achievement in nuclear energy. Dyson was cited for "his contributions to fundamental scientific knowledge in fields as diverse as physics, biology,

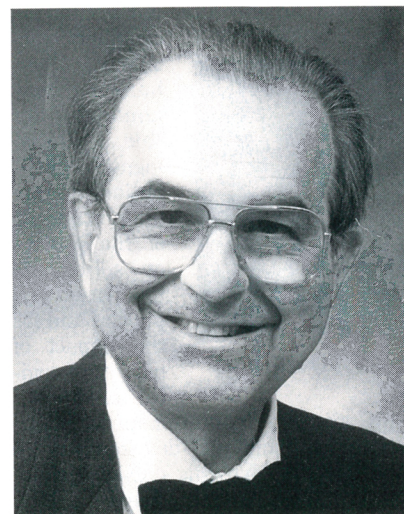


Freeman Dyson

astronomy and mathematics; for his courageous questioning of the risks and benefits of science and technology; and for his wonderful articles and books that describe to the public how a scientist looks at the world."

SOR PRESENTS BINGHAM MEDAL TO ACRIVOS

At its annual meeting in Boston in October, the Society of Rheology presented **Andreas Acrivos** with its Bingham Medal. The award citation noted that Acrivos's work on the structure of dense suspensions subject to shear-induced self-diffusion has been "not only critical to the conduct of proper experimentation with dense suspensions, but has also laid the groundwork for theoretical modeling." Acrivos was also cited for his "studies



Andreas Acrivos

WE HEAR THAT

of the microhydrodynamics of single or multiple particles or drips in flow fields" and for "his role as a mentor to researchers in rheology." Acrivos is the Einstein Professor of Science and Engineering at the City College of the City University of New York and editor of the journal *Physics of Fluids*.

Also at the October meeting, the first *Journal of Rheology* Publication Award was presented to **Savvas G. Hatzikiriakos** and **John M. Dealy** for two related papers: "Wall Slip of Molten High-Density Polyethylenes. II. Capillary Rheometer Studies" and "Role of Slip and Fracture in the Oscillating Flow of HDPE in a Capillary." The award citation said that the authors "have addressed an important industrial rheology problem and provided solid theoretical and experimental guideposts, which can immediately be exploited by producers and users of high-density polyethylenes." Hatzikiriakos is a professor of chemical engineering at the University of British Columbia in Vancouver. Dealy is dean of engineering at McGill University in Montreal.

IN BRIEF

In October **Hans F. W. Moeller** retired as vice chairman of the board of directors of Schott Corporation in Yonkers, New York.

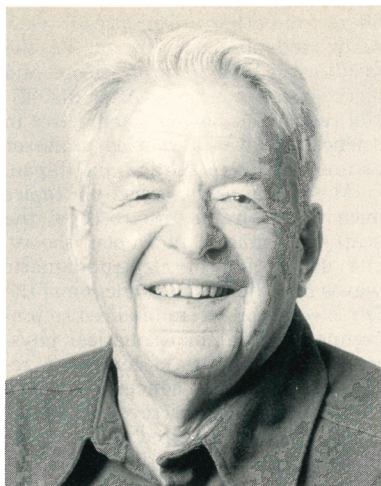
Reuben Collins has joined the physics faculty of the Colorado School of Mines in Golden. Collins had been a member of the research staff at IBM in Yorktown Heights, New York.

OBITUARIES

Allyn C. Vine

Allyn Collins Vine, a geophysicist and oceanographer, died on 4 January 1994 at his home in Woods Hole, Massachusetts, at the age of 79. He was best known for his role in the construction and use of the deep-diving submarine ALVIN (a contraction of his name).

As a graduate student under Maurice Ewing at Lehigh University in the years 1936-40 Vine carried out research on seismic refraction at the deep ocean floor. He and Ewing first used an instrument chamber lowered by a wire rope; later they used free-floating ocean-bottom seismographs and timed explosive devices. All of those instruments were made by the experimenters. As a byproduct of this work, they also developed underwater cameras to photograph the seafloor.



Allyn C. Vine

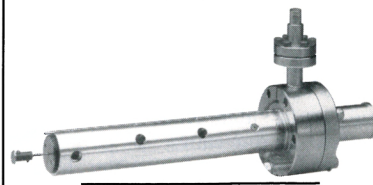
Nearly every picture showed life or evidence of life on the deep sea floor, which had previously been believed to be azoic.

In 1941 Vine moved to the Woods Hole Oceanographic Institution when that organization received the first contract for research work for division 6 of the National Defense Research Committee, in anticipation of possible US participation in World War II. Ewing, Vine and I were the first employees on that contract.

The bathythermograph, invented by Athelstan Spilhaus, was redesigned by Vine and Ewing to be lowered from moving ships and recovered by a wire rope wound on a small winch. The record thus obtained of temperature versus depth was used to compute the paths of refracted sonic rays in the ocean, revealing details of shadow zones and layers beneath which a submarine could hide. Convoy commanders used this information to deploy the screening ships that guarded the convoy.

Vine and Ewing designed a model of the bathythermograph suitable for use on submarines. At first by himself and later with several associates, Vine installed this technology on existing submarines and on each new submarine built, and trained the crews in the instruments' use to escape detection by enemy sonar. Later Vine designed an addition to the bathythermograph record that made it possible to determine how much to flood or pump water from a submarine's ballast tanks to obtain near-neutral buoyancy. This modification eliminated guesswork and greatly expedited the training of submarine crews. In 1972 the US Navy recognized Vine for his services, stating that his work had resulted in "the savings of untold numbers of lives

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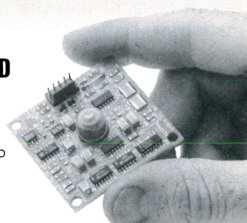
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