we hear that

other related sciences Axford received the John Adam Fleming Medal. Axford, a professor of physics and applied physics at the University of California at San Diego, was especially cited for his work on the magnetosphere, which has led to a deeper understanding of the interaction between the earth's magnetic field and the "polar wind." He has also studied cosmic-ray propagation, the dynamics of the solar wind and other facets of interplanetary sciences.

The Wallace H. Bucher Medal was awarded to Morgan, of Princeton University, for his contributions to the knowledge of the earth's crust. In 1968, Morgan's work on the basic mechanism of the earth's crustal motions led him through fundamental theories of the physical nature of the deep earth to the first clear statement of plate tetonics. More recently he has been doing work on "triple junctions."

S. S. Stevens wins Rayleigh Gold Medal

Stanley S. Stevens, professor of psychophysics and director of the Laboratory of Psychophysics at Harvard University, received the British Acoustical Society's Rayleigh Gold Medal. The award was presented to Stevens at the society's annual meeting in April, when he delivered the Rayleigh lecture on "Calculating the Perceived Level of Light and Sound."

The medal was awarded to Stevens for his contributions to psychoacoustics, including "Stevens law," which states that the magnitude of a sensation grows as a power function of the intensity of the stimulus. A member of the Harvard faculty since 1936, Stevens has written widely on hearing as well as on other subjects in psychology.

Among the other awards Stevens has received are ones from the Society of Experimental Psychologists, the American Psychological Association and the Beltone Institute for Hearing Research. He is a member of the National Academy of Sciences and the American Academy of Arts and Sciences.

IOP presents six 1972 awards

The council of the Institute of Physics presented six awards for 1972 during their annual dinner in May.

The Guthrie Medal and Prize was awarded to Brian D. Josephson, of the University of Cambridge, for his contributions to theoretical physics. Aage Bohr, of the Niels Bohr Institute, was recognized with the Rutherford Medal and Prize for his work on nuclear structure, in particular on the theory of the collective model of the nucleus. The Glazebrook Medal and Prize was presented to Sir Gordon Sutherland, master of Emmanuel College, Cambridge, UK, for his work in molecular spectroscopy and its applications to industrial and biological materials. Sutherland was also cited for applying physics during his directorship of the National Physics Laboratory.

A fourth award, the Maxwell Medal and Prize, was given to Volker Heine, of the University of Cambridge, for his contributions to the electronic theory of solids. Michael W. Thompson, of the University of Sussex, received the Charles Vernon Boys Prize. He was cited for his studies of radiation damage in solids, sputtering and especially the channelling of energetic particles through crystal lattices. And the A. B. Wood Medal and Prize was awarded to Brian Ray, of Kingston-upon-Thames Polytechnic, for his work on an underwater house and its use for acoustic observations.

The new president of General Physics Corp in Columbia, Md. is **Robert W. Deutsch**, former professor and chairman of the department of nuclear science and engineering at Catholic University.

Stephen R. Smith, formerly of Princeton University has been appointed assistant professor at Bryn Mawr College.

New York University has named **Sidney Borowitz**, provost of its University Heights campus and former professor of physics, as chancellor and executive vice-president of the university.

Robert W. Hart has been promoted to chairman of the research center of the Johns Hopkins University Applied Physics Laboratory. Other promotions at the laboratory include **Joe T. Massey** and **Alvin G. Schulz** as assistants to the director—Massey for biomedical programs and Schulz for environmental programs.

At Los Alamos Scientific Laboratory **John R. Lilley** has joined the theoretical design division, and **Richard F. Ellis** has joined the physics division.

Melvin I. Cohen, formerly supervisor of the laser processing study group at Bell Telephone Laboratories, has been ap-

pointed an assistant director of laser and optical research at the Western Electric Engineering Research Center, Princeton, N. J.

The University of South Carolina has promoted **Joseph E. Johnson** and **Edwin R. Jones Jr** to associate professors.

Donald E. Osterbrock, chairman of the department of astronomy at the University of Wisconsin, has been appointed director of the University of California's Lick Observatory.

W. Farrell Edwards has resigned as head of the physics department at Utah State University to become the coordinator of general education there. He has been replaced as chairman by **Eastman N. Hatch,** a professor of physics at Utah. Other promotions include **William R. Pendleton, Robert E. McAdams** and **O. Harry Otteson** to associate professors.

Promoted to chairman of the physics department at Harvey Mudd College was **Graydon D. Bell.** The department has also promoted **Eldred F. Tubbs** to professor.

George C. White has been promoted to deputy director of Frankford Arsenal's Pitman–Dunn Laboratory.

obituary

Frederick V. Hunt

Frederick V. Hunt, recently retired Gordon McKay Professor of Applied Physics and Rumford Professor of Physics at Harvard University, died on 20 April of a heart attack while attending the 83rd meeting of the Acoustical Society of America in Buffalo, New York. He was 67 years old.

Hunt had attended all but one meeting of the ASA since its birth in 1929. His sudden death especially affected those who had been exposed once again at the Buffalo meeting to his personal warmth, his extraordinary energy and enthusiasm, his continuing encouragement of others and his varied and substantial intellectual and creative contributions. The acoustics community as a whole has lost one of its strongest advocates, a remarkable teacher, a fertile mind and an articulate and influential leader of men.

He was broadly recognized as a pioneer in the field of underwater acoustics. The term "sonar" is attributed to Hunt by many familiar with underwater-sound work in the early days of World War II. In 1941, at the age of 36 and as an associate professor at Harvard, he organized the Harvard Underwater Sound Laboratory and then directed this activity until the end of the war. Under his guidance the laboratory evolved the concepts of scanning sonar and the acoustic homing torpedo, which were to have a striking effect upon the direction and success of the antisubmarine warfare effort. For this work Hunt received the Presidential Medal for Merit in 1947.

In 1950 he became the first to propose the possibility of long-range ocean surveillance by active acoustic means. An ambitious and farsighted research program in underwater surveillance was subsequently undertaken by the US Navy. It was no accident that the code name assigned to this project was ARTEMIS, after the Roman goddess of the hunt.

He served continuously and with distinction on the Committee on Under-

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sea Warfare of the National Academy of Sciences from the formation of this Committee in 1946 until his death. In 1965 he received the ASA's Pioneers in Underwater Acoustics Award and in 1970 the US Navy gave him its highest civilian award, the Distinguished Public Service Medal.

In the early 1930's Hunt inherited