we hear that

F. V. Hunt receives Navy Public Service Award

Frederick V. Hunt received the Distinguished Public Service Award, the Navy's highest civilian honor, for his contributions to underwater acoustics. Hunt, a professor at Harvard University, began his association with the Navy during World War II when he became the leader of the Harvard Underwater Sound Laboratory, developing magnetostrictive scanning sonars and one of the first guided missiles, the acoustic homing torpedo. Hunt received the Presidential Medal of Merit in 1947 for this work. After the war he joined the National Academy of Sciences Committee on Undersea Warfare, of which he is still a member.

Helen B. Warner Prize awarded to Bahcall

John N. Bahcall, theoretical physicist at the California Institute of Technology, has been awarded the Helen B. Warner Prize of the American Astronomical Society. The prize was presented to Bahcall during the 133rd meeting of the AAS on 7 December in Tampa, Florida and is designed to honor

BAHCALL

significant work done by scientists before the age of 35.

Bahcall, the first theoretical physicist to receive the award since its inception in 1954, will receive $500. He is being honored for his contributions to cosmology in two areas: for theoretical work on an experiment to detect solar neutrinos and for using quasars to help determine the distribution of matter in space. Bahcall did the theoretical work for an experiment conducted by Raymond Davis Jr, of Brookhaven National Laboratory, that was designed to explore the temperature and density of the sun's nuclear core by recording neutrinos from it. Also by examining light from distant quasars, he was able to determine the density and composition of interstellar gas and dust.

Bahcall, who has been with the California Institute of Technology since 1963, is also a staff associate of the Hale Observatories and a member of the Institute for Advanced Study at Princeton. He received his PhD from Harvard and his MA from the University of Chicago.

Italian Physical Society honors Bruno B. Rossi

Bruno B. Rossi has been awarded the 1970 Gold Medal of the Italian Physical Society. Rossi was cited for his contributions to the education of physicists and for his work in the area of cosmic-ray research. Rossi, who received his PhD in physics from the University of Bologna, is an institute professor emeritus at the Massachusetts Institute of Technology. Before coming to the US, Rossi worked at the Institute of Theoretical Physics in Copenhagen and at the University of Manchester. Rossi is presently chairman of the board of American Science and Engineering, Inc.

Five APS prizes will be presented in 1971

The American Physical Society awarded four prizes in November which will be bestowed during the 1971 general meetings. The Tom W. Bonner Prize in nuclear physics will be awarded to Maurice Goldhaber; the Oliver E. Buckley Solid State Physics Prize to Erwin Hahn; the Irving Langmuir Prize to Michael E. Fisher; the High Polymer Physics Prize to John D. Hoffman and John I. Lauritzen. A fifth joint award by the American Physical Society and the American Institute of Physics will be presented to Roger Penrose.

Goldhaber, of Brookhaven National Laboratory, will receive his award at the spring meeting in Washington, D.C. on 28 April. He will receive this award for his work in nuclear physics concerning the nature of nuclei, the electromagnetic interactions with nuclei and the weak interactions of nuclei. The Buckley prize to Hahn is endowed by the Bell Telephone Laboratories and will be bestowed at the 30 March meeting in Cleveland, Ohio. Hahn, of the University of California, Berkeley, received the award for his study of the "transient response of solids under the action of electromagnetic pulses." Fisher, whose prize was donated by the General Electric Foundation, will also be awarded at the March meeting. Fisher, of Cornell University, was cited for his work in equilibrium statistical mechanics.

Hoffman and Lauritzen, both of the National Bureau of Standards, were awarded for their work in the kinetic theory of polymer crystallization. This award was sponsored by the Ford Motor Co and will also be presented during the March meeting.

Penrose will receive the Dannie Heinemann Prize for mathematical physics, endowed by the Heineman Foundation for Research, Educational, Charitable and Scientific Purposes, Inc. Penrose, professor at Birkbeck College in London, will be awarded at the joint meeting of the American Association of Physics Teachers and the APS on 3 March. He is being cited for his contributions to relativity.

Tillobert Kirsten receives Roentgen Award

Tillobert Kirsten, from the Max Planck Institute for Nuclear Physics in Heidelberg, Germany, has won the 1970 Roentgen Award for his discovery of double beta decay.

Kirsten made the discovery at the State University of New York at Stony Brook while working with Oliver Schaeffer, chairman of Stony Brook's department of earth and space sciences. He found that the beta decay of tellurium occurs by a two-particle process of low but finite probability. The discovery was made while Kirsten was a research associate under an Atomic Energy Commission grant to Schaeffer for studies of natural radioactivity.

The award is given annually for work

in experimental physics and is presented by the Science Faculty of the University of Giessen, West Germany, where Roentgen was a physics professor when he discovered x-rays in 1895.

NY Academy of Sciences awards to six physicists

Six physicists received awards from the New York Academy of Sciences during their annual banquet at the Waldorf Astoria Hotel in New York on 2 Dec. The recipients were I. I. Rabi, Helmut Schwarz, Peter Bergmann, Harold Grad, Elliot H. Lieb and Oele Heilmann.

Rabi, professor emeritus of Columbia University, received the Lehman award of $1000 for his overall contribution to science. Rabi received the Nobel Prize in 1944 for his resonance method for recording magnetic methods of atomic nuclei.

The other awards were given for specific papers. Schwarz, of the Rennsselaer Polytechnic Institute Hartford Graduate Center, received the Morrison Award in natural sciences and $1000 for his paper, "Modulation of Electron Beams by Laser Light." The Borris Pregel Award for research in physics and astronomy was given to Bergmann, of Syracuse University, for his paper, "Hamilton-Jacobi Theory with Mixed Constraints." The Pregel Award for research in chemical physics was awarded to Lieb of the Massachusetts Institute of Technology and Heilmann of the University of Copenhagen for their paper, "Violation of Non-Crossing Rule: The Hubbard-Hamiltonian for Benzene." Grad received the Pregel Award for nuclear physics and nuclear engineering for his paper, "Magnetic Properties of a Contained Plasma." Grad is a professor at the Courant Institute of Mathematics at New York University.

Buerger to receive Fankuchen Memorial Award

Martin J. Buerger will receive the American Crystallographic Association's first I. Fankuchen Memorial Award. The award, established in memory of I. Fankuchen, professor of physics at Polytechnic Institute of Brooklyn from 1942 to 1964, is to be made every three years to a crystallographer or x-ray diffractionist. The award, consisting of $1500, requires that the recipient deliver Fankuchen Memorial Lectures at the ACA presentation of the award, at the Polytechnic Institute of Brooklyn and at two additional institutes.

Buerger is institute professor emeritus at Massachusetts Institute of Technology and professor at the Institute of Materials Science at the University of Connecticut, Storrs. He received his MS degree in geology and his PhD degree in mineralogy from the Massachusetts Institute of Technology.

George T. Reynolds has been named director of Princeton University's newly established center for environmental studies. The center, which is a major element of the council of environmental studies, will be funded externally and will draw its membership from social, physical, life and engineering scientists throughout the university. Reynolds, who has been a member of the faculty since 1946, was for the past 18 years director of the elementary-particles laboratory and before that, director of the program in science in human affairs. Reynolds introduced the liquid scintillator, a tool used for nuclear and cosmic-ray research, biological and medical research and for the construction of large radiation detectors.

REYNOLDS

The National Aeronautics and Space Administration has named **George W. Cherry** as director of the aeronautical operating systems division in the office of advanced research and technology.

Frank E. Swindells has been appointed vice-president of development and manufacturing at the newly formed ARTECH Corp.

Joining Raytheon Company's Semiconductor Division as section head for memory processing is **Keith G. Taft.** He was formerly head for digital electronic components of Fairchild Research and Development.

Joseph E. Herceg has joined the staff of the Los Alamos Scientific Laboratory, health division. **Kenneth S. Krane** has joined the physics division.

James J. Zwolenik has been promoted to staff associate, Office of Policy Studies of the chemistry section of the National Science Foundation.

Serge A. Korff of New York University has been elected president-elect of the New York Academy of Sciences for 1971.

Recently appointed as chairman of the department of physics at Northern Illinois University was **Thomas D. Rossing.** Rossing was formerly chair-