

Vetlesen Prize awarded to Fowler

William A. Fowler, Institute Professor of Physics at the California Institute of Technology, has been awarded Columbia University's Vetlesen Prize for 1972. The Prize, consisting of \$25 000 and a gold medal, is given for outstanding scientific achievements that contribute to "a clearer understanding of the earth, its history or its relation to the universe."

During the 1960's, when there was no adequate understanding of the age of the universe, Fowler's work encouraged acceptance of ages as long as 10 to 20 billion years. He demonstrated that terrestrial uranium and thorium isotope ratios could be understood in terms consistent with a process of creation going back several billion years before the earth was formed. Studies of lunar samples have since shown uranium/thorium isotope ratios consistent with terrestrial samples, tending to confirm Fowler's deduction that these quantities are probably constant throughout the solar system.

Most of Fowler's other scientific contributions have involved similar applications of nuclear physics to astrophysics and geophysics. According to the Vetlesen Prize jury, "almost all of our quantitative information about the basic nuclear processes that enter into



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stellar energy generation and element synthesis is due to Fowler or to work directly instigated by him."

Fowler received his PhD from the California Institute of Technology in 1936 and has remained there throughout his career. In 1946 he was made professor and in 1970, Institute Professor of Physics.

of new and important weapon design concepts, and his role in the engineering and testing of weapons for our nuclear stockpile."

Wainwright has been with the Laboratory since 1954, when he completed his doctorate at the University of Notre Dame. His Award was for "fundamental and original contributions to the theory of design and outputs of nuclear explosives, for the original development of computational methods for the calculation of statistical physics phenomena, and for many innovative advances in the study of transport and hydrodynamics phenomena."

The other recipients of the Award are Louis Baker Jr, a chemical engineer at Argonne National Laboratory; James R. Weir Jr, assistant section chief of the metals and ceramics division at Oak Ridge National Laborato-

ry, and Sheldon Wolff, professor of cytogenetics at the University of California, San Francisco.

Davies to become new editor for *Nature*

David Davies, a geophysicist, will take over as editor of *Nature* on 20 August. Presently group leader of the seismic discrimination group at MIT Lincoln Laboratory, Davies will succeed John Maddox, who plans to continue his career in journalism and publishing.

Working as senior assistant in research in the department of geodesy and geophysics at Cambridge University, where he completed his PhD in 1965, Davies participated in several scientific cruises involved with a study of the earth's crust and upper-mantle structure. During this period he developed a lasting interest in the establishment of more adequate theoretical explanations for the data recorded in explosion seismology. Continuing this interest, he served as Rapporteur to the Seismic Study Group of the Stockholm International Peace Research Institute from April through July 1968 and intermittently thereafter. Since that time SIPRI reports have gone a long way toward establishing agreement upon the scope and limitations of seismology in policing test bans. Davies's work at Lincoln Laboratory, which involves the application of large arrays to the seismic discrimination problem, represents a continuation of his interest in the residual problems of test-ban seismology.

Davies is an editor of the Royal Astronomical Society's *Geophysical Journal*, which has doubled in size since he set up its American office in 1970. He has also been a geophysics correspondent for *Nature* for several years.

Geophysical union honors three members

The American Geophysical Union recently presented awards to three of its members. They are Victor Vacquier, George P. Woollard and Roy Allan Freeze.

Vacquier, professor of geophysics at the Scripps Institution of Oceanography of the University of California, San Diego, was given the John Adam Flem-

E. O. Lawrence Awards go to two physicists

Two physicists are among the five scientists recently named by the Atomic Energy Commission as recipients of the Ernest Orlando Lawrence Memorial Award for 1973. They are Seymour Sack and Thomas E. Wainwright, both of Lawrence Livermore Laboratory. The Award consists of a gold medal, a citation and \$5000.

After completing his PhD at Yale University in 1954, Sack went to Livermore, where he works in the field of nuclear weapons technology. Upon receiving his Award, Sack was cited for "his innovative contributions to the theory of nuclear weapons, his development of computer codes fundamental to the design of modern nuclear weapons, his leadership in the development



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electron beam mode	Model 105	Model 110
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Pulse duration, nsec	10	10

x-ray mode	Model 105	Model 110
Dose at 30 cm	≥ 0.4 R	1 R
Dose at face plate	0.1 kR	150 R
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Pulse duration, nsec	10	10

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ing Medal "for original research and technical leadership in geomagnetism, atmospheric electricity, aeronomy, and related sciences." His work involves measurement of anomalies in the magnetic fields on the ocean floor and their relation to the relative motions of land masses.

Woollard is professor of geophysics at the University of Hawaii. He was awarded the William Bowie Medal "for outstanding contributions to fundamental geophysics and for unselfish cooperation in research." Woollard is also director of the University of Hawaii's Institute of Geophysics. He holds a PhD from Princeton University (1937).

The James B. Macelwane Award was presented to Freeze "in recognition of significant contributions to the geophysical sciences by a young scientist of outstanding ability." Freeze is presently the resident staff member hydrologist at the IBM Thomas J. Watson Research Center in Yorktown, New York, where he works with the application of computers to the construction of models of subsurface water flow. He completed his doctorate at the University of California, Berkeley in 1954.

Engineering academy elects new members

The National Academy of Engineering recently elected 70 new members. Included among them are several physicists and other scientists involved in physics-related activities.

They are Solomon J. Buchsbaum and George C. Dacey of Bell Laboratories; Morris E. Fine of Northwestern University; Nick Holonyak Jr of the University of Illinois, Urbana; Donald E. Hudson of the California Institute of Technology; H. Richard Johnson of Watkins-Johnson Co, Palo Alto, California; Thomas O. Paine of the General Electric Co, New York City; David S. Potter of General Motors Corp, Indianapolis, Indiana; Walter A. Rosenblith of the Massachusetts Institute of Technology; Ian M. Ross of Bell Labs; Rustum Roy of Pennsylvania State University, University Park; Anthony E. Siegman of Stanford University, and Morgan Sparks of Sandia Laboratories, Albuquerque, New Mexico.

Hass presented Civilian Service Award

George H. Hass, a consultant to the US Army Electronics Command's Night Vision Laboratory and former

director of the Laboratory's physics research technical area, was recently presented the Exceptional Civilian Service Award for his work in the field of vacuum-deposited thin films and their application.

A member of the Board of Directors and the Board of Editors of the Optical Society of America, Hass received his doctorate from the Institute of Technology in Danzig, Germany in 1943. Subsequently he became a consultant to the US Army Engineers Research and Development Laboratories (1946-52). After a short time as chief of the physics research section there (1952-54), he was named supervisory physicist and chief of the physics research lab, a position he held until 1965, when he was made director of the physics research technical area. Hass is presently a consultant on temperature control of satellites and space astronomy for NASA and the Naval Research Laboratory.

Gravity essay awards announced for 1973

The Gravity Research Foundation has announced its 1973 awards for essays on gravitation. The winners are Arthur E. Fischer and Jerrold E. Marsden, F. W. W. Dilke and D. O. Gough, Andrzej Staruszkiewicz, Patrick J. McCarthy, and Zoltán Perjés.

The \$1000 first prize was awarded to Fischer, of the University of California, Santa Cruz, and to Marsden, of the University of California, Berkeley, for the essay "Global Analysis and General Relativity." The second prize of \$300 went to Dilke and Gough, both from

At Yale University **Richard B. Larson** and **Robert D. McClure** have been promoted to associate professor of astronomy. **David B. Shaffer**, from the California Institute of Technology, has been appointed J. Willard Gibbs Instructor in the department.

John R. Ficenec has been promoted to associate professor of physics at Virginia Polytechnic Institute and State University.

John M. Palms, chairman of the physics department at Emory University, has been promoted to professor.

At Columbia University **Chien Shiung Wu** has been named the first Michael I. Pupin Professor of Physics. Wu has also been chosen to become the first woman president of the American Physical Society (see *PHYSICS TODAY*, March, page 100).

Cambridge University, for "Solar Gravity Waves: Cause of Terrestrial Ice Ages." **Staruszkiewicz**, of Jagellonian University, Cracow, Poland, received the third prize of \$200 for his essay "On Retardation Effects in the Planetary System." **McCarthy**, of the University of British Columbia, Vancouver, Canada, was awarded the fourth prize of \$150 for "The Asymptotic Symmetry Group of General Relativity." The \$100 fifth-place award went to **Perjés**, of the University of London, for his essay, "Classification of Stationary Space-Times." Thirty additional essays were cited for honorable mention.

NASA awards medal to J. I. Trombka

Jacob I. Trombka, a member of the theoretical studies branch of the Laboratory for Space Physics at NASA's Goddard Space Flight Center in Greenbelt, Maryland, has been awarded a NASA Exceptional Scientific Achievement Medal. He received the Medal for his work in remote-sensing experiments on Apollos 15, 16 and 17.

Trombka, who holds a PhD from the University of Michigan (1961), has worked as a research physicist at the Oak Ridge Institute of Nuclear Studies (1954-56), and as a research associate in nuclear engineering and a fellow in gamma-ray spectroscopy at the University of Michigan (1956-62). Prior to joining NASA in 1965 he was senior scientist at the Jet Propulsion Laboratory, California Institute of Technology (1962-64).

At the Massachusetts Institute of Technology **Sidney Yip** has been promoted to professor in the department of nuclear engineering, and **Rainer Weiss** has been promoted to professor in the physics department.

Formerly acting head of the accelerator section at the National Accelerator Laboratory in Batavia, Illinois, **Paul J. Reardon** has been appointed associate director of the Laboratory and head of the accelerator division.

At the University of Rhode Island, Kingston, **William S. Penhallow** has been promoted to associate professor of physics.

Leon M. Lederman, director of Columbia University's Nevis Laboratories in Irvington, New York, has been named to the Eugene Higgins Professorship in Physics at Columbia.