

Ringwood, Ewing, Nur honored by Geophysical Union

The American Geophysical Union has presented three awards in recognition of outstanding accomplishments in geophysics. The recipients are Alfred E. Ringwood, a professor of geochemistry at the Australian National University in Canberra, Maurice Ewing, chief of earth and planetary sciences at the Marine Biomedical Institute, University of Texas Medical Branch, Galveston, and Amos M. Nur, an assistant professor of geophysics at Stanford University. On 4 May Ewing died unexpectedly in Galveston.

Ringwood was awarded the William Bowie Medal for his use of petrological, geophysical, geochemical and cosmological phenomena to develop detailed models of the Earth, the Earth's mantle and the Moon—work that has stimulated and guided the thinking of many other earth scientists. He has been especially active in gathering evidence for deep-Earth structure as revealed by mineral composition changes, and most recently he has been involved in studies of lunar rock samples. Ringwood also originated the single-stage theory of the formation of the Earth and the inner planets. He earned his PhD at Melbourne University in 1956.

Long-time director of Columbia Uni-



RINGWOOD



EWING



NUR

versity's Lamont-Doherty Geological Observatory (1949–72), Ewing was presented with the Walter H. Bucher Medal "for original contributions to the basic knowledge of the earth's crust." While Ewing's work had spanned just about all areas of geophysics—from ocean acoustics to the physical properties of seawater to the causes of ice ages—his most important role had been gathering and interpreting evidence that led to the emergence and acceptance of the theory of plate tectonics, a theory that has revolutionized the earth sciences. Ewing completed both his undergraduate and graduate work at Rice Institute (now Rice

University), receiving his PhD in 1931.

Nur received the James B. Macelwane Award "in recognition of significant contributions to the geophysical sciences by a young scientist of outstanding ability." The theory of rock dilatancy, which may possibly represent a key to earthquake prediction, grew out of Nur's study of the physical properties of rocks. A native of Israel, he received his undergraduate education at Hebrew University and completed his PhD at the Massachusetts Institute of Technology in 1969. Nur's primary research interests include tectonophysics, rock mechanics, physical hydrology and earthquake mechanics.

Lawrence E. Glendenin receives ACS award

The winner of the American Chemical Society's 1974 Award for Nuclear Applications in Chemistry is Lawrence E. Glendenin, a chemist at Argonne National Laboratory. The \$2000 award is sponsored by the G. D. Searle and Co.

Glendenin is a radiochemist, and the award recognizes his work on the chemical isolation and identification of fission products. Besides his participation in the discovery of the element promethium (element 61), Glendenin has also contributed to procedures for the chemical separation of 16 other fission-related elements. Furthermore, his studies of nuclear-charge distribution in fission resulted in his development of the important "rule of equal charge displacement." After earning his PhD at the Massachusetts Institute

of Technology in 1949, Glendenin became an associate chemist at Argonne, advancing to senior chemist in 1958 and to group leader the following year.

John B. Wachtman Jr., chief of the inorganic materials division of the National Bureau of Standards, is president-elect of the Federation of Materials Societies; he will become president in 1975.

At the Oak Ridge National Laboratory **John F. Clarke** has been promoted to director of the Thermonuclear Division, a position left vacant by **Herman Postma's** appointment as director of ORNL.

Jack R. Jokipii, formerly of the George W. Downs Laboratory of Physics, California Institute of Technology, has

been appointed professor of planetary sciences and astronomy at the University of Arizona. **Laurel L. Wilkening** of the Enrico Fermi Institute, University of Chicago, and **M. J. Drake** of the Smithsonian Astrophysical Observatory have been named assistant professors in the department of planetary sciences and the Lunar and Planetary Laboratory at the University.

In the department of physics at Florida State University **Steve Edwards** has succeeded **Norman P. Heydenburg** as chairman, following Heydenburg's appointment as acting provost for the Division of Arts and Sciences. Other promotions include **Robert H. Hunt** to associate chairman, and **J. Daniel Kimel** and **P. K. Williams** to associate professor. **John R. Merrill** of Dartmouth College has been appointed associate professor of physics and director of the Center for Educa-

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tion Design of the Division of Instructional Research and Service. Other new appointments include **R. Carter Morris** of the University of Virginia and **Fred L. Petrovich** of the University of California, Berkeley, to assistant professor.

The new director of the Institute for Basic Standards of the National Bureau of Standards is **Arthur O. McCoubrey**, a leader in the development and application of frequency and time standards. He was formerly vice-president and director of Frequency & Time Systems, Inc in Danvers, Massachusetts. In announcing the appointment, NBS director Richard W. Roberts said McCoubrey "brings to the Institute . . . a distinguished record in private industry, where he for years has been in the forefront of developments involving precision instruments." McCoubrey holds a PhD in physics from the University of Pittsburgh (1953).



McCOUBREY

Mark Q. Barton, a physicist in the accelerator department at Brookhaven National Laboratory, has been appointed to a three-year term as chairman of the department. Barton succeeds **Ronald**

Rau, associate director for high-energy physics, who has been acting chairman for the past year.

At the Memorial University of Newfoundland in St John's, **Tran Trong Gien** has been promoted to professor of physics.

Rein A. Uritam has been promoted to associate professor in the physics department at Boston College, Chestnut Hill, Massachusetts.

At California State College, Stanislaus (in Turlock, California) **Tai L. Chow** has been appointed chairman of the department of physics and physical sciences.

P. A. M. Dirac, a professor in the physics department at Florida State University, was recently awarded the Order of Merit by Queen Elizabeth II of the UK. The Order of Merit is held by only 24 British subjects at a time.

David S. Potter, the director of research of Detroit Diesel Allison Division of General Motors Corp, is now Assistant Secretary of the Navy for Research and Development. In this capacity Potter will have primary responsibility for policy development and conduct of the Navy's research, development, test and evaluation program.

Formerly with the department of electrical engineering at Texas Tech University, **Larry C. Burton** is now associate research professor at the Institute of Energy Conversion, University of Delaware, Newark.

obituaries

Edward Uhler Condon

The extraordinary career of Edward Uhler Condon, president of the American Physical Society (1946) and of the American Association of Physics Teachers (1964), ended with his death in Boulder, Colorado, on 26 March 1974.

Born in Alamogordo, New Mexico, on 2 March 1902, Edward Condon was one of the young Americans who made the pilgrimage in 1926 to Göttingen and Munich and grasped immediately the significance and power of the new quantum theory. As an undergraduate, Condon had worked as a reporter for the *Oakland Inquirer*, thinking he might pursue a career in journalism. But the intellectual challenge of physics, after a brief flirtation with chemistry, caught his fancy. When he returned from Göttingen, he worked

briefly as a public-relations man for Bell Labs, lectured at Columbia and then embarked on an academic career that took him to Princeton, Minnesota, and back to Princeton, where he taught until 1937.

Like most great scientists, Condon made important contributions while still a student. The basis for his papers on the separability of electronic and vibrational motions in molecules (the Franck-Condon Principle) was in his Berkeley thesis. With R. W. Gurney, he was an early explorer of quantum-mechanical tunneling, applied to the phenomenon of alpha-particle radioactivity. In 1937, with Gregory Breit and Richard Present, he interpreted proton-proton scattering data and established the importance of charge independence in the strong nuclear interaction. His early solid-state theory work was the explanation of op-