

WE HEAR THAT

Lawrence Awards Honor Work in Atomic Energy

In February, the US Department of Energy announced the names of individuals who will receive the E. O. Lawrence Awards, given annually for outstanding accomplishments in seven aspects of atomic energy: physics, life sciences, chemistry, national security, environmental science and technology, materials research and nuclear technology. In a ceremony this spring, DOE will present gold medals and \$15 000 checks to the winners. The recipients include five individuals who are receiving the award for physics-related work.

Charles Alcock will receive the award in the physics category for "his scientific and technological leadership in making the first definitive observations of Massive Compact Halo Objects (MACHO) that may account for a significant fraction of 'dark matter' in the universe." Alcock is head of the Institute for Geophysics and Planetary Physics at Lawrence Livermore National Laboratory.

The award in the chemistry category will go to **Thomas Dunning**, the director of the Environmental Molecular Sciences Laboratory at the Pacific Northwest National Laboratory. Dunning is being honored for "his electronic structure calculations on molecules. [His] work has been applied in laser technology, combustion chemistry and environmental chemistry."

The national security award will be presented to **Charles V. Jakowatz**, the manager of the signal processing research department at Sandia National Laboratories, for "his work in advancing the use of synthetic aperture radar (SAR) for imaging arms control, nonproliferation and other national security applications. [His] work makes it possible to use SAR to produce highly accurate terrain elevation maps, as well as to detect very subtle physical changes on the earth's surface."

Sunil K. Sinha is to receive the materials research award for "developing new techniques for using x-rays and neutron scattering to learn details about the structure of many materials." Sinha is associate director of the experimental facilities division of the Advanced Photon Source at Argonne National Laboratory.

The winner in the nuclear technology category is **Theofanis G. Theofanous**, who is a professor in the de-

partments of chemical engineering and of mechanical and environmental engineering and the director of the Center for Risk Studies and Safety at the University of California, Santa Barbara. He is being recognized for "inventing the Risk-Oriented Accident Analysis Methodology (ROAAM) and for fundamental insights into the progression of severe nuclear reactor accidents."

AGU Honors Eight in San Francisco

One of the highlights of the American Geophysical Union's fall meeting in San Francisco last December was the presentation of several medals and other honors.

Eugene M. Shoemaker received the William Bowie Medal, AGU's top honor, for "his pioneering studies of extraterrestrial objects throughout the Solar System, both in space and on planetary surfaces." Shoemaker is an emeritus scientist of the US Geological Survey and a staff member at Lowell Observatory.

The James B. Macelwane Medal was presented to **David Bercovici**, an associate professor of geology and geophysics at the University of Hawaii at Manoa. AGU cited him for "basic and insightful contributions to our understanding of the dynamics of the mantle and lithosphere." (Two other Macelwane medalists were honored at the AGU spring meeting in 1996.)

Hiroo Kanamori was given the Walter H. Bucher Medal for his "outstanding contributions in the use of seismological methods to study the physics of earthquakes and the tectonic processes that cause them." Kanamori is the director of the Seismological Laboratory at Caltech and a professor of geophysics there.

The 1996 recipient of the Maurice Ewing Medal, given jointly by the US Navy and AGU, was **Walter C. Pitman III**, a research scientist at Columbia University's Lamont-Doherty Earth Observatory. Pitman garnered the medal for his "pioneering studies of marine magnetic anomalies and their use in the construction of the magnetic polarity time scale and its application to the tectonic history of the Earth and sea level change."

The Robert E. Horton Medal went to **Mark F. Meier** for "his fundamental contributions on hydrological processes in glaciology and his path-setting research on glacier flow instabilities." Meier is an emeritus professor of geo-

logical sciences and a fellow of the Institute of Arctic and Alpine Research at the University of Colorado at Boulder.

Thomas J. Ahrens was given the Harry H. Hess Medal for "his fundamental contributions to our understanding of the formation and evolution of planetary bodies, particularly through the use of innovative shock-wave experiments." Ahrens is a professor of geophysics at Caltech.

AGU presented the Waldo E. Smith Medal to **Ned A. Ostenson**, citing "his 30-year Washington career dedicated to improving the quality of the Earth sciences through careful, imaginative and humane administration, direction and nurturing of government grant programs, federal laboratories and research programs and for his contributions to the health of [AGU]." Ostenson, who is retired, was the assistant administrator for oceanic and atmospheric research at the National Oceanic and Atmospheric Administration.

The Roger Revelle Medal was presented to **Robert E. Dickinson**, a regents professor in the department of atmospheric science at the University of Arizona. Dickinson was cited for his "contributions characterized by both great breadth and remarkable depth, including the study of future climate change, biometeorology and vegetation-climate interaction, upper atmosphere research, polar climates, aerosols and biomass burning, the general circulation of the atmosphere, the atmosphere of Venus, the climate of the early Earth and the characteristics of spiral galaxies."

Engineering Academy Names New Members

The National Academy of Engineering announced in February that its members had elected 85 new members and eight foreign associates. The inductees will enlarge the academy to 1893 US members and 153 foreign members. The newly elected engineers include

Pallab K. Chatterjee, the president of the personal productivity products division at Texas Instruments Inc in Dallas, Texas.

Steven F. Clifford, director of the National Oceanic and Atmospheric Administration's Environmental Technology Laboratory in Boulder, Colorado.

William E. Kastenbergh, a professor in and chairman of the department of nuclear engineering at the University of California, Berkeley.