

physics emeritus at Princeton University. Bergmann, who died on 19 October 2002, was an emeritus professor of physics at Syracuse University.

Melba Newell Phillips, emeritus professor of physics at the University of Chicago, will receive the Joseph A. Burton Forum Award. APS is recognizing Phillips for her "tireless efforts in physics education, for continued work in preserving the history of physics as well as other service to the physics community, for her role in founding the Federation of American Scientists, and as a model of a principled scientist."

Yvonne Choquet-Bruhat and **James York** will share the Dannie Heineman Prize for Mathematical Physics, given jointly by APS and the American Institute of Physics. According to the citation, the prize is being awarded for their "separate as well as joint work in proving the existence and uniqueness of solutions to Einstein's gravitational field equations for a variety of sources, and for formulating these equations so as to improve numerical solution procedures with relevance to realistic physical systems." Choquet-Bruhat is a professor emeritus at the Pierre and Marie Curie University (University of Paris VI) in France. York is a professor in the physics department and in the Center for Radiophysics and Space Research at Cornell University.

Frank Wilczek, Herman Feshbach Professor of Physics at MIT, will take home the Julius Edgar Lilienfeld Prize for his "role in the development of asymptotic freedom and other aspects of quantum chromodynamics, a cornerstone of the standard model; for his remarkable versatility in research in condensed matter and astrophysics as well as particle physics; and for his outstanding ability to lecture and write with clarity, profundity, and enthusiasm."

The Maria Goeppert-Mayer Award will go to **Chung-Pei Michele Ma**, associate professor of astronomy at the University of California, Berkeley. Ma is being recognized for her "important contributions to theoretical astrophysics, particularly in the areas of relativistic evolution of density perturbations, testing of structure formation models with massive neutrinos, and the clustering and dynamics of dark matter halos around galaxies."

Karsten Heeger, Chamberlain Fellow in the physics division at Lawrence Berkeley National Laboratory, will receive the Dissertation in Nuclear Physics Award for his "role in the generation and analysis of the data from the Sudbury Neutrino Observa-

tory, and the resulting resolution of the solar neutrino problem." Heeger's thesis work was done under the guidance of R. G. Hamish Robertson at the University of Washington, Seattle.

William Willis, professor of physics at Columbia University, will receive the W. K. H. Panofsky Prize. He is being recognized for playing a "leading role in the development and exploitation of innovative techniques now widely adopted in particle physics, including liquid argon calorimetry, electron identification by detection of transition radiation, and hyperon beams."

APS has selected **Alfred Mueller** and **George Sterman** to share the J. J. Sakurai Prize. They are being cited for "developing concepts and techniques in QCD [quantum chromodynamics], such as infrared safety and factorization in hard processes, which permitted precise quantitative predictions and experimental tests, and thereby helped to establish QCD as the theory of the strong interactions." Mueller is a professor of physics at Columbia University. Sterman is a professor of physics and astronomy and director of the C. N. Yang Institute for Theoretical Physics, at Stony Brook University.

Robert Socolow, professor of mechanical and aerospace engineering at Princeton University, will receive the Leo Szilard Lectureship Award. He is being cited for his "leadership in establishing energy and environmental problems as legitimate research fields for physicists" and for "demonstrating that these broadly defined problems can be addressed with the highest scientific standards."

Helen T. Edwards, head of the photoinjector group in the beams division at Fermilab, will garner the Robert R. Wilson Prize for her "pivotal achievement and critical contribution as the leader in the design, construction, commissioning, and operation of the Tevatron" and for her "continued contributions to the development of high gradient superconducting linear accelerators as well as bright and intense electron sources."

APS has also announced that the 2003 Francis Pipkin Award will go to **Eric Hessels**, professor and Canada Research Chair in atomic physics in the department of physics and astronomy at York University in Toronto. He is being acknowledged for "a wide range of high precision measurements to test fundamental interactions in atomic physics, especially fine structure splittings in helium as a measure of the fine structure constant, and for an innovative experimental technique

to create atoms of antihydrogen." Hessels will be recognized at a meeting of the society's division of atomic, molecular, and optical physics in Boulder, Colorado, in May.

Geophysics Researchers Honored by AGU

At its meeting in San Francisco in December 2002, the American Geophysical Union bestowed the following medals at a special awards ceremony.

Adam M. Dziewonski, Frank B. Baird Jr Professor of Science at Harvard University, received the society's top honor, the William Bowie Medal. He was recognized for his "fundamental contributions to the understanding of the structure and dynamics of the Earth and the character and distribution of seismic energy release; for dramatically improving our understanding of how seismic waves propagate; and for his willingness to share his expertise with his colleagues to further this research."

The Walter Bucher Medal was presented to **Stuart Ross Taylor**, emeritus professor and a visiting fellow in the department of geology at Australian National University in Canberra, in recognition of his "fundamental contributions to the understanding of the chemical composition, origin, and geochemical evolution of the continental crust."

The Maurice Ewing Medal went to **Nicholas Shackleton** for his "significant contributions to paleoclimatology, stratigraphy, and paleoceanography." Shackleton is a professor of quaternary paleoclimatology at the University of Cambridge in England.

Ronald T. Merrill, professor of geophysics and geological sciences in the Earth and space sciences department at the University of Washington, took home the John Adam Fleming Medal for his "original contributions to the understanding of rock magnetism and dynamo theories of the origin of the geomagnetic field."

The Harry H. Hess Medal went to **Gerald Schubert** for his "leadership role and for contributions to the understanding of the dynamics and evolution of terrestrial planets." Schubert is a professor of geophysics and planetary physics in UCLA's department of Earth and space sciences and at the Institute of Geophysics and Planetary Physics.

John M. Eiler and **Michael Manga** each received a James B.

Macelwane Medal, which is given for significant contributions to the geophysical sciences by outstanding scientists younger than age 36. Eiler is an assistant professor of geochemistry in the division of geological and planetary sciences at Caltech and Manga is an associate professor of Earth and planetary science at the University of California, Berkeley.

AGU gave the Roger Revelle Medal to **Ralph J. Cicerone** for his "extraordinary breadth of contributions to the understanding of biogeochemical cycles and their effect on climate." Cicerone is the Aldrich Professor of Earth System Science, a professor of chemistry, and chancellor at the University of California, Irvine.

Daniel Weill, former director of the Ocean Drilling Program at the Joint Oceanographic Institutions, received the Edward A. Flinn III Award for his "unselfish efforts on behalf of the wider Earth science community to meet the needs of evolving instrumentation and facilities."

In 2001, AGU established the Charles S. Falkenberg Award to honor a scientist younger than age 45, who has contributed to the quality of life, economic opportunities, and stewardship of the planet through the use of Earth science information, and to the public awareness of the importance of understanding our planet. The first award went posthumously this year to **Charles S. Falkenberg**, a computer scientist, who was killed in the hijacked airliner that crashed into the Pentagon on September 11th.

National Academy Honors Achievements

Next month at a ceremony in Washington, DC, the National Academy of Sciences will recognize 18 individuals for their contributions in different fields of science, including chemistry and the Earth sciences.

The academy will present its Award in Chemical Sciences to **Harry Gray**, Arnold O. Beckman Professor of Chemistry at Caltech. This annual award recognizes innovative research in the chemical sciences that contributes to a better understanding of the natural sciences and that benefits humanity. Gray is being cited for his "demonstration of long-range electron tunneling in proteins, his inspirational teaching and mentoring of students, and his unselfish service as a statesman of chemistry." He will receive a medal and cash prize of \$20 000.

John Wasson will be the recipient of the J. Lawrence Smith Medal, which

NAS presents every three years for recent original and meritorious investigations of meteoric bodies. The academy is acknowledging him for his "important studies on the classification, origin, and early history of iron meteorites and chondritic meteorites, and on the mode of formation of chondrules." Wasson, who holds joint appointments in UCLA's Institute of Geophysics and Planetary Physics and in the departments of Earth and space sciences and of chemistry and biochemistry, will receive a medal and \$25 000.

To honor contributions to geology and paleontology, the academy's Mary Clark Thompson Medal will go to **Frederik Hilgen**, university lecturer on the faculty of Earth sciences at the University of Utrecht in the Netherlands. Hilgen is being cited for his "meticulous integration of various geological, geophysical, and proxy cyclostratigraphic sedimentological records in developing a Late Neogene (12–0 Ma) astronomical time scale." He will receive a medal and a cash prize of \$15 000. The award is given approximately every three years.

AIP Presents Science Writing Awards

The American Institute of Physics has acknowledged its science writing award winners for 2002.

Alfred B. Bortz, a Monroeville, Pennsylvania, physicist who writes children's science books under the name of Fred Bortz, garnered the 2002 Science Writing Award for Children's Literature. He was chosen for his book *Techno-Matter: The Materials Behind the Marvels*, published in 2001 by Twenty-First Century Books.

The 2002 Science Writing Award in Broadcast Media went to **David Kestenbaum**, science correspondent at National Public Radio, for his story "Measuring Muons," which aired on 8 February 2001. The story can be heard at http://search.npr.org/cf/cmn/segment_display.cfm?segID=118293.

For coverage of AIP's 2002 Science Writing Award to a Scientist, see the box in PHYSICS TODAY, December 2002, page 28.

Two Win King Faisal Science Prize

This month, the King Faisal Foundation in Riyadh, Saudi Arabia, presented the 2003 King Faisal International Prize for Science (Chemistry) to **M. Frederick Hawthorne** and **Koji Nakanishi**. Each received a

gold medallion and the pair shared a cash award of about \$200 000.

Hawthorne, University Professor of Chemistry at UCLA, is "one of the most creative and productive chemists in the world," according to the foundation. He is being recognized for his research in boron chemistry, which extends over many fields ranging from the synthesis of new classes of compounds to catalysis and novel therapies for cancer. His research "could lead to the development of a 'silver bullet' to target cancerous cells for destruction while sparing healthy ones," says the citation.

Nakanishi, Centennial Professor of Chemistry at Columbia University, is "an equally eminent chemist." Through his research in biologically active natural products, he has "established the properties and elucidated the structures of many chemical compounds including antibiotics, carcinogenic materials, and anti-cancer products." Over the years, he has also been working on the mechanism of vision. His recent research on age-related macular degeneration is "likely to accelerate the development of a treatment [of this disease], which afflicts many elderly people."

Science Prize topics rotate annually. Next year's topic will be biology.

Holonyak to Receive Top IEEE Medal

At its annual honors ceremony this coming June in Nashville, Tennessee, the Institute of Electrical and Electronics Engineers will present the 2003 IEEE Medal of Honor, its highest award, to **Nick Holonyak Jr.**

The institute is honoring Holonyak for a "career of pioneering contributions to semiconductors, including the growth of semiconductor alloys and heterojunctions, and to visible light-emitting diodes and injection lasers." Holonyak is the John Bardeen Chair Professor of Electrical and Computer Engineering and Physics at the University of Illinois at Urbana-Champaign. The award includes a gold medal and a cash honorarium.

In Brief

At a ceremony next month in Tokyo, the Science and Technology Foundation of Japan will award the 2003 Japan Prize to three individuals. In the science and technology complexity category, the prize will go jointly to **Benoit B. Mandelbrot**, Sterling Professor of Mathematical Sciences at