

goes this year to **Brian Richard D'Urso** for his research on coupled semiconductor cavities with two-dimensional photonic bandgap crystal mirrors. D'Urso did this work at Caltech under the tutelage of **Axel Scherer**, a professor of electrical engineering, applied physics and physics. D'Urso is now a graduate student at Harvard University. The Apker Award for research in a non-PhD-granting institution is going to **Gwendolyn Rae Bell**, who is now a graduate student in astronomy at Caltech, for work she did at Harvey Mudd College under **Alexander Rudolph**, an assistant professor of physics there. Bell is being honored for her research on the mass of the Milky Way and dwarf spheroidal stream membership.

The Joseph A. Burton Forum Award will be presented to **Freeman J. Dyson**, who is now retired from his long-time position as a professor of physics at the Institute of Advanced Study in Princeton, New Jersey. The citation praises "his thoughtful, elegant and widely published writings regarding the impact of diverse science and technology developments on critical societal issues and on fundamental questions for humankind."

**Simon Foner** has been selected to receive the Joseph F. Keithley Award for Advances in Measurement Science. Foner, who retired as associate director and chief scientist of MIT's Francis Bitter Magnet Laboratory in 1995 and is currently a visiting scientist there, is being recognized for "the invention and development of the vibrating sample magnetometer and many of its successful applications, and for the innovative development of very high field pulsed magnets."

The Maria Goeppert-Mayer Award recognizes women physicists early in their career. The recipient this year is **Andrea M. Ghez**, an associate professor of physics and astronomy at UCLA. The award citation praises her "use of speckle interferometry to obtain very high-resolution images with the Keck telescope and for her presentations to astronomers and the general public that sparkle with enthusiasm. Her research has shed new light on how stars form and on the nature of the massive black hole at the center of the Milky Way."

**Steven K. Lamoreaux** will garner the Francis M. Pipkin Award for research by a young scientist in precision measurement and fundamental constants. Lamoreaux, a staff member at Los Alamos National Laboratory, is being recognized for "extensive contributions to precision measurements science, especially searches for a permanent electric dipole moment of the neutron and

atoms, measurements of atomic parity violation, and tests of spatial symmetries and quantum mechanics, including observation of the vacuum Casimir Effect."

The John Wheatley Award recognizes an individual who has promoted the development of physics in countries of the third world. This year, it will go to **Ivan K. Schuller** for "his dedication to the development of physics at the frontier level in Latin America, China and India; for his efforts on organizing international events and building strong bridges to connect people, ideas, and resources from around the world; and for his results as an imaginative physicist and a close collaborator with young physicists in developing countries." Schuller is a professor of physics at the University of California, San Diego.

APS also plans to present some medals and lectureships at the Atlanta meeting. The lectureships provide funds for individuals to give a number of lectures over the course of the following year:

The David Adler Lectureship Award will go to **Leonard Feldman**, the Stevenson Professor of Physics at Vanderbilt University and a distinguished visiting scientist at Oak Ridge National Laboratory, for "distinguished research and lecturing on ion beam analysis, semiconductor surfaces and thin film growth."

**Vitaly Lazarevich Ginzburg** of the Russian Academy of Sciences has been named to receive the 1998 Nicholson Medal for Humanitarian Service. He is being praised for "courageously supporting democratic reforms in the former Soviet Union, and for leading the Soviet scientific community in humane directions."

The John H. Dillon Medal for outstanding research by young polymer physicists will go to **Anne Mayes**, an associate professor of polymer physics in the department of materials science and engineering at MIT. She is being recognized for "her unique combination of theoretical and experimental insight into polymer self-organization."

**Alfred Z. Msezane**, a professor of physics at Clark Atlanta University and director of the university's Center for Theoretical Studies of Physical Systems, will garner the Edward A. Bouchet Award, which provides funds for lectures at three academic institutions. Msezane is being recognized for his "continuing outstanding contributions to theoretical atomic physics and leadership in the creation and administration of a highly regarded research center of excellence."

The Leo Szilard Lectureship Award will be presented to **John Alexander**

**Simpson**, the Arthur H. Compton Distinguished Service Professor, emeritus, in the Enrico Fermi Institute and the department of physics at the University of Chicago. According to the citation, Simpson played a "leading role in educating scientists, members of Congress and the public on the importance of civilian control of nuclear policy." He is also being honored for "his critical efforts in the planning and execution of the International Geophysical Year, which established, in 1957, a successful model for today's global-scale scientific endeavors."

Also, as part of the centennial meeting, APS will present awards to three individuals for doctoral dissertations in specific areas:

The Award for a Dissertation in Nuclear Physics will go to **Eric Hawker**, who wrote his thesis under **Robert Tribble**, a professor of physics at Texas A&M University. Hawker is now a postdoctoral research associate at Los Alamos National Laboratory.

**Luis Lehner** will be the first recipient of the newly created Nicholas Metropolis Award for Outstanding Doctoral Thesis Work in Computational Physics. As a graduate student under **Jeffrey Winicour**, a professor of physics and astronomy at the University of Pittsburgh, Lehner developed a method "that significantly advances the capability for modeling gravitational radiation by making possible the stable numerical solution of Einstein's equation near moving black holes." Lehner currently holds a postdoctoral position at the University of Texas at Austin.

The APS division of atomic, molecular and optical physics will select the recipient of the Award for Outstanding Doctoral Thesis Research in Atomic, Molecular or Optical Physics. The selection committee will render its decision after hearing the presentations of five finalists at a special session during the centennial meeting.

## AGU Presents Medals and Awards at Fall Meeting

The following individuals were honored at the fall meeting of the American Geophysical Union, held in San Francisco in December.

**Lars P. Stixrude** received the 1998 James B. Macelwane Medal, which recognizes significant contributions made by young geophysicists. According to the medal citation, Stixrude's "unique contributions to geophysics come from a masterful use of theoretical and computational methods in physics and



chemistry combined with a deep and broad understanding of unresolved questions concerning the composition, structure and evolution of the Earth." Stixrude is an assistant professor in the geological sciences department at the University of Michigan.

The 1998 Walter Bucher Medal went to **Norman H. Sleep**, a professor of geophysics at Stanford University. He was recognized for using "simple physical ideas to understand processes at work within the Earth, particularly those affecting the crust and lithosphere" and for his "important contributions to most of the recent advances in our understanding of geodynamics."

The 1998 Maurice Ewing Medal, given jointly by AGU and the US Navy, was garnered by **Richard P. Von Herzen**, a senior scientist emeritus at the Woods Hole Oceanographic Institution, for his "many great contributions to the understanding of Earth's thermal structure and to the technology needed for doing heat flow research."

The 1998 Waldo E. Smith Medal, given for extraordinary service to geophysics, went to **Margaret A. Shea**. According to the citation, she was "recognized as an expert in geomagnetic cutoff rigidities for cosmic radiation." Her cutoff rigidity tables are the international standard and have been adopted by the Federal Aviation Administration and NASA for determining radiation dosages to aircrews and astronauts. Shea was also cited for her role in the international geophysics community and her contributions to the geophysics literature. Shea is a research physicist emerita at the Air Force Research Laboratory and an adjunct professor at the University of Alabama in Huntsville.

**Harold S. Johnston**, a professor emeritus of chemistry at the University of California, Berkeley, was awarded the 1998 Roger Revelle Medal. The citation stated that his "research on atmospheric chemistry and chemical kinetics is a model for elegance, creativity and accuracy; his recognition of the potential for human activities to contribute to global change stands as a landmark in the history of atmospheric science; and his tireless dedication to educating the public and policymakers about careful scientific analysis of the impact of aviation on the stratosphere has been extraordinary."

The Edward A. Flinn II Award was presented to **Robert W. Corell**, assistant director for geosciences at the National Science Foundation. Corell was cited for leading the "conception, formulation and implementation of the US Global Change Research Program, which involves 20 US departments, agencies and offices, to study the

Earth's system and to ascertain the influence of humans on the system." He also has developed "international programs on global environmental issues and new partnerships and arrangements, such as the Inter-American Institute for Global Change Research, to encourage data sharing and joint science programs among developing and developed nations."

The faculty members of the Summer of Applied Geophysical Experience (SAGE), which operates in northern New Mexico, received the 1998 Excellence in Geophysical Education Award. The award citation stated that "the persistence and commitment of this group has provided the geophysical community with a superb educational program for over 16 years" and noted that the program offers an "intensive field and research experience that is simply not available at any individual institution, large or small." The awardees are **Scott Baldrige**, a research scientist at Los Alamos National Laboratory, **Shawn Biehler**, a professor of geophysics at the University of California, Riverside, **Larry Braile**, a professor of geophysics at Purdue University, **John Ferguson**, an associate professor of geophysics and seismology at the University of Texas at Dallas, **Bernard Gilpin**, a professor of physics and geology at Golden West College in Huntington Beach, California, and

**George Jiracek**, a professor of geological sciences at San Diego State University.

## IN BRIEF

The 1998 Great Gold Medal of the French Academy of Sciences was awarded to **Leo Kadanoff**, the John D. and Catherine T. MacArthur Professor of Physics and Mathematics at the University of Chicago. Described by the citation as a "major pioneer of theoretical physics in our times," Kadanoff was recognized for his contributions to critical phenomena and his "profound influence on a number of fields. . . . The use of scaling laws, based on Kadanoff's ideas, has become a major tool of scientific investigations."

**Jeffrey Bub**, a professor of philosophy at the University of Maryland, College Park, and **Deborah Mayo**, a professor of philosophy at Virginia Polytechnic Institute and State University, are the joint winners of the 1998 Lakatos Award, a £10 000 prize given by the London School of Economics and Political Science for outstanding contributions to the philosophy of science. Bub was honored for his book, *Interpreting the Quantum World* (Cambridge U. P., New York, 1997), and Mayo for her book, *Error and the Growth of Experimental Knowledge* (U. Chicago P., Chicago, 1996).

## OBITUARIES

### Isadore Rudnick

On 22 August 1997, the community of physical acousticians suffered a great loss with the death in Los Angeles of Isadore Rudnick. His passing followed a brutal, decade-long fight against a progressive form of dementia.

Izzy was born on 8 May 1917 in New York City and received his university education at UCLA, where he earned BA, MA and PhD degrees in physics in 1938, 1940 and 1944, respectively.

After doing postdoctoral work at Duke University and holding a faculty position at Pennsylvania State University, he returned in 1948 to UCLA, where he served as a professor of physics for 39 years.

Before his return to UCLA, Izzy significantly advanced our understanding of several areas of classical acoustics—namely, atmospheric sound propagation, attenuation of sound in soil and nonlinear distortion and attenuation of shockwaves in ducts and horns. While at Penn State, he and Clayton Allen developed a special type

of siren, which was then the most powerful man-made sound source. The siren's variety of uses included the study of the biological effects of intense airborne sound and an acoustical technique for cleaning clothes.

Izzy's research in classical acoustics continued at UCLA, with studies of acoustically induced streaming, modes of vibration of elastic bodies and attenuation of sound in seawater.

In 1956, having recognized the increasing importance of quantum mechanics in graduate education, Izzy went on sabbatical to the Technical University of Denmark to study low-temperature physics. On his return to UCLA, he obtained funds to buy a helium liquefier and began a series of ultrasonic investigations of electron-phonon interactions in metals and superconductivity.

In the mid-1960s, Izzy turned his attention to the superfluid hydrodynamics of liquid helium and began a 20-year series of experiments, which produced some of the most subtle and precise measurements of the dynamics of this quantum fluid. Superfluid he-