

postdoctoral research staff member in the condensed matter physics division of the physics and advanced technologies directorate at Lawrence Livermore National Laboratory.

The 2000 Nicholson Medal for Humanitarian Service went to **Marshall Rosenbluth** for his "inspirational leadership and personal caring in the development of the skills and commitment of the succeeding generations of scientific leaders in plasma physics and for many years of continual successful promotion and participation in international scientific collaborations." Rosenbluth is a professor emeritus of physics at the University of California, San Diego.

The 2001 Nicholson Medal recipient is **D. Allan Bromley**, the Sterling Professor of the Sciences in the physics department at Yale University, for his "roles as a research scientist, an outstanding teacher, a supportive mentor and colleague, a leader of the physics community in this country and worldwide, and adviser to governments."

Christopher Monroe, an associate professor of physics at the University of Michigan, Ann Arbor, is the recipient of the I. I. Rabi Prize for his "pivotal experiments that implemented quantum logic using trapped atomic ions and for his fundamental studies of coherence and decoherence in entangled quantum systems."

The Shock Compression Award went to **Yogendra Gupta** for his "many significant contributions to the mechanical, optical, and x-ray measurement of both continuum and microscopic aspects of shock waves in condensed matter." Gupta is a professor of physics and the director of the Institute for Shock Physics at Washington State University.

Alex Zunger is the recipient of the Aneesur Rahman Prize for Computational Physics for his "pioneering work on the computational basis for first-principles electronic structure theory of solids." Zunger is a physicist and research fellow at DOE's National Renewable Energy Laboratory in Golden, Colorado.

The Fluid Dynamics Prize went this year to **Howard Brenner**, the Willard H. Dow Professor of Chemical Engineering at MIT, for his "outstanding and sustained research in physico-chemical hydrodynamics, the quality of his monographs and textbooks, and his long-standing service to the fluid mechanics community."

John Kim garnered the Otto Laporte Award for his "pioneering work in the development of direct numerical simulation as a tool in tur-

bulence research and for his important contributions to the understanding of the physics and control of turbulent boundary layers." Kim is the Rockwell International Professor in the department of mechanical and aerospace engineering at UCLA.

The James Clerk Maxwell Prize went to **Roald Sagdeev**, a Distinguished University Professor in the physics department at the University of Maryland, College Park. Sagdeev was cited for "an unmatched set of contributions to modern plasma theory including collisionless shocks, stochastic magnetic fields, ion temperature gradient instabilities, quasi-linear theory, neoclassical transport, and weak turbulence theory."

The Award for Excellence in Plasma Physics Research was shared by **Keith Burrell**, **Richard J. Groebner**, **Edward Doyle**, and **Edmund J. Synakowski** for "experiments that show that sheared $\mathbf{E} \times \mathbf{B}$ flows can suppress turbulence and transport in tokamak plasmas and that such flows can spontaneously arise at the edge and in the core of tokamak plasmas." Burrell is a senior technical adviser and Groebner is a principal scientist at General Atomics in San Diego, California. Doyle is a principal development engineer at UCLA. Synakowski is a physicist at the Princeton Plasma Physics Laboratory in Princeton, New Jersey.

Kevin Bowers is the winner of the Outstanding Doctoral Thesis in Plasma Physics Award for his "comprehensive and insightful theories and simulations of electron series resonant (ESR) diodes and ESR surface-wave plasmas, which showed how distributed slow-wave excitation might produce large area plasma discharges for processing (and other) applications." Bowers is a member of the technical staff in the opto-electromechanical integration group in the semiconductor research division of Agere Systems (formerly the Lucent Bell Labs Microelectronics Corp).

The winner of the Andreas Acrivos Dissertation Award is **Greg A. Voth** for his thesis entitled "Lagrangian Acceleration Measurements in Turbulence at Large Reynolds Numbers." Voth is a postdoctoral researcher in physics at Haverford College in Pennsylvania.

The recipient of the Atomic, Molecular or Optical Physics Outstanding Doctoral Thesis Award is **Thomas Weinacht** a research associate at JILA, for his dissertation entitled "Using Feedback for Coherent Control of Quantum Systems."

Researchers Receive 'Dutch Nobel Prize'

At a ceremony in February 2002, four winners will garner the NWO/SPINOZA Prize for 2001, which is given by the Hague-based Netherlands Organization for Scientific Research (NWO). The winners, two of whom are engaged in physics-related work, will each receive 1.5 million euros (nearly \$1.4 million).

Bert Meijer is a professor of organic chemistry at the Eindhoven University of Technology and an adjunct professor at the University of Nijmegen in the Netherlands. According to the NWO, he is one of the founders of the discipline of macro-organic chemistry and also is "a leading scientist in the field of the design, synthesis, and characterization of dendrimers." Besides being responsible for the discovery of a large-scale synthetic process of a specific dendrimer, his group in Eindhoven used dendrimers as nanocontainers for guest molecules (the so-called "dendritic box") and other structures that now lead to possible drug-delivery systems. More recently, he was able to assemble small molecules into polymer chains by using quadruple hydrogen bonding units. These materials possess properties that were traditionally only observed with polymers made of long macromolecules, being covalently linked chains. The reversibility of the hydrogen bonding makes the new materials self-healing.

Meijer's group also has contributed to the synthesis and understanding of materials for polymeric and molecular electronics, in which chirality was used to get a basic understanding of the interactions between conjugated polymer chains. Meijer plans to use the prize money to focus on both supramolecular electronics and functional objects for biomedical applications.

Johannes Oerlemans, a professor of meteorology at Utrecht University in the Netherlands, will also receive the prize. He is a recognized expert on the relationship between the state of the polar ice sheets and climate, according to the NWO. "He has improved our understanding of the world's present climate but also established new insights into the causes of climate changes during the ice ages and how they affected the level of the sea." Oerlemans was the first investigator to take account quantitatively of the effect of the sagging of Earth's crust under the enormous weight of an ice sheet. This research allowed him to

produce a better description of how the ice sheets grew and melted in the past.

Extensive measurements have allowed Oerlemans to create a theory of the dynamics of glaciers that can apply to glaciers worldwide. This theory explains why glaciers are retreating as a result of the current minor change in climate. He intends to use the prize money to carry out detailed measurements of temperature profiles in the ice on Greenland. These further measurements will reveal more about the present state of the ice sheet, which is an essential component of climate modeling.

The award, which has been dubbed the "Dutch Nobel Prize" by many members of the scientific community, is the highest scientific honor in the Netherlands. It is given to researchers who have displayed internationally recognized excellence and have inspired and recruited young researchers.

First Leverhulme Prizes Awarded

Thirteen young scholars who work in physics-related fields received Philip Leverhulme Prizes, which were awarded by the Leverhulme Trust, located in London, for the first time this past July. The prizes go to academics in the UK to recognize the research achievement, distinction, and promise of outstanding scholars usually younger than age 36 in the fields of astronomy and astrophysics, the classics, Earth sciences, economics, engineering, geography, and philosophy and ethics. In this inaugural year, 35 total prizes were awarded.

In the astronomy and astrophysics category, **Nils Andersson**, a lecturer in mathematics at the University of Southampton, was recognized for his work on relativistic astrophysics. **Cathie Clarke**, who carries out research on the theory of star formation, won a prize for her work. She is a senior lecturer at the University of Cambridge's Institute of Astronomy. **Andrew Liddle**, the professor of astrophysics at the University of Sussex, won a prize for his work on cosmology and extragalactic astrophysics. **Philip Mauskopf** was recognized for his work on cosmology and millimeter wave instrumentation. He is a research fellow in the physics and astronomy department at Cardiff University. **Ben Moore** received a prize for his research on theoretical astrophysics and cosmology, and **Ian Smail** was acknowledged for his work on extragalactic astronomy. Both are

Royal Society research fellows in the physics department at the University of Durham.

In the Earth sciences category, a prize went to **Kenneth Carslaw**, a reader in atmospheric science at the University of Leeds, for his contributions to atmospheric science. **Tim Elliott** received a prize in Earth sciences for his work on mantle geochemistry. He is a lecturer in the Earth sciences department at the University of Bristol. **Gideon Henderson**, a university lecturer in environmental Earth science at the University of Oxford, was honored for his work on geochemistry. **Andrew Roberts** was recognized for his research on paleomagnetism and environmental magnetism. He is a reader in these fields at the University of Southampton.

In the engineering category, **Steve Elston** received a prize for his work on liquid crystals and display technology. He is a lecturer in imaging and displays in the University of Oxford's engineering department. **Simon Guest** was honored for his research on structural mechanics. He is a senior lecturer in the University of Cambridge's engineering department. **Colin McInnes**, a professor of space systems engineering at the University of Glasgow, was acknowledged for his work in that field.

Each prize is worth £50 000 (about \$74 000). The Leverhulme Trust was established in 1925 under the will of the first Lord Leverhulme, who, in the late 19th century, as William Hesketh Lever, had established Lever Brothers, a company known for its manufacture and sale of soap.

Quinn Is Elected Vice President of APS

The American Physical Society has elected **Helen Quinn**, a research physicist at SLAC, vice president for 2002. Taking office 1 January, she succeeds Myriam Sarachik and will become president-elect in 2003 and president in 2004. This marks the first time APS has had consecutive women vice presidents.

"We must work together with other science-based professional societies to ensure that the need for both basic and applied research and the interconnections between basic work in one area and later applied work are understood," says Quinn. She adds that the society must also ensure that physicists are aware when science-related issues are before Congress,

and facilitate activities to help physicists' voices contribute effectively to the political dialogue.

Quinn received three degrees in physics: a BS in 1963, an MS in 1964, and her PhD in 1967, all from Stanford University. She held postdoctoral positions at the German Electron Synchrotron and at Harvard University, and became an assistant professor of physics at Harvard in 1972. In 1979, she moved to SLAC, where she currently focuses on the phenomenology of B mesons, in particular whether their decays, including charge conjugation-parity violation decays, conform to the Standard Model. Quinn is active in physics education outreach, and is especially involved in the training of physics teachers.

In other APS election results, also taking office on 1 January will be the new chair-elect of the APS nominating committee, **Susan Seestrom**, direc-



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tor of the physics division at Los Alamos National Laboratory. The new APS international councillor will be **T. Maurice Rice**, a professor with the Institute for Theoretical Physics at the Swiss Federal Institute of Technology (ETH). The two new members of the APS general council are **Frances Houle**, a researcher in the science and technology department at the IBM Almaden Research Center in San Jose, California, and **Gerald Mahan**, distinguished professor of physics at Pennsylvania State University.

IN BRIEF

At its annual meeting in Washington, DC, this past October, the National Academy of Engineering awarded this year's Arthur M. Bueche Award to **Ian M. Ross** in honor of "his contributions to semiconductor development, his leadership of engineering for communications networks and the Apollo program, and his role in shaping national policies affecting the semiconductor industry." Ross, the president of Bell Labs in Murray Hill, New Jersey, from 1979 to 1991, retired from Bell Labs in 1992.

Also at its annual meeting, the ANAE presented this year's NAE