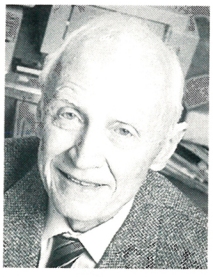
President Announces Winners of National Medals

On 30 April, President Clinton announced the nine recipients of the 1997 National Medal of Science and the five winners of the 1997 National Medal of Technology. The medals are the highest honor accorded by the government to its scientists and engineers.

Since its creation in 1959, the National Medal of Science, administered by the National Science Foundation, has been bestowed on 353 researchers. Among the nine recipients of the science medals this year are six who have engaged in physics or physics-related research.

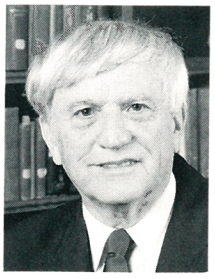
One medal went to **Darleane C. Hoffman**, director of the Glenn T. Seaborg Institute for Transactinium Science at the Lawrence Berkeley National Laboratory. Hoffman was honored for "her numerous contributions to our understanding of radioactive decay, notably of heavy nuclei. She is an internationally recognized leader in nuclear chemistry, particularly the topics of nuclear fission, properties of actinide elements and reactions of heavy ions."

HOFFMAN



JOHNSTON

ROSENBLUTH



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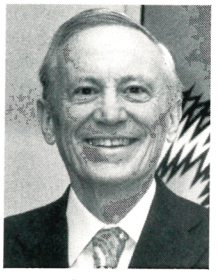


SCHWARZSCHILD

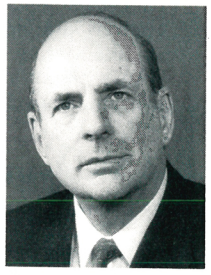
Harold S. Johnston, an emeritus professor of chemistry at the University of California at Berkeley, garnered a national medal for "understanding the chemistry of nitrogen compounds and their role and reactions in the Earth's stratosphere and in urban areas. His chemical and environmental research, along with his commitment to science in the service of society, have resulted in pivotal contributions to the understanding and conservation of the Earth's atmosphere."

Another recipient was **Marshall N. Rosenbluth**, a professor of physics at the University of California, San Diego. Rosenbluth's citation praised him for "fundamental contributions to plasma physics, his leadership in the quest to develop controlled thermonuclear fusion, and his wide-ranging technical contributions to national security." The citation went on to say, "His theoretical studies of the behavior of plasmas and their instabilities provided a significant foundation for the design and development of prototype devices for fusion power."

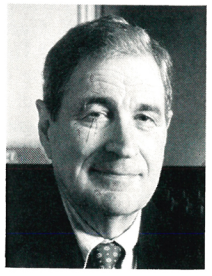
George Wetherill received a medal for "his fundamental contributions to measuring astronomical time scales and understanding how earth-like planets may be created in evolving solar systems. His pioneering achievements include developing precise radiometric techniques for dating the age of meteorites and creating conceptual models and computer algorithms for the accretion of a few solid, terrestrial planets by collision with smaller neighbors." Wetherill is a member of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington in the nation's capital.

Shing-Tung Yau, a professor of mathematics at Harvard University was recognized with a medal for "profound contributions to mathematics that have had great impact on fields as diverse as topology, algebraic geometry, general relativity and string theory. His work insightfully combines two different mathematical approaches and has resulted in the solution of several long-standing and important problems in mathematics."

Finally, a science medal was awarded posthumously to **Martin Schwarzschild**, who had died on 10 April 1997. The citation lauded Schwarzschild, who had been Emeritus Higgins Professor of Astronomy at Princeton University, for "his seminal contributions to the theory of the evolution of stars and his creative insights into the dynamics of galaxies." The citation also noted that "his research forms the basis of much of contemporary astrophysics" and that "the many students he trained are among today's leaders in the field."



AUGUSTINE



DOLBY

LEDLEY

The National Medal of Technology, instituted in 1980 and administered by the Department of Commerce, has gone to a total of 103 individuals and eight companies. Among the 1997 recipients are **Norman Augustine**, chairman and chief executive officer of Lockheed Martin Corporation in Bethesda, Maryland. (Augustine announced in May that he will retire on 1 August.) He was honored for "visionary leadership of the aerospace industry, and for identifying and championing innovative technical and managerial solutions to many challenges in civil and defense aerospace systems." The citation noted that "he has contributed to solutions to numerous, wide-ranging issues upon which the future of America's technological capabilities depend."

Ray M. Dolby, chairman of the board of Dolby Laboratories, Inc, in San Francisco, received a technology medal for "inventing technologies that have dramatically improved the recording and reproduction of sound, fostering their adoption worldwide, and propagating a vision of how innovative audio-processing technologies could enable new formats for recording and listening. His inventions are central to audio experiences ranging from the cassettes played in car stereos to the

latest digital sound in movie theaters."

A technology medal also went to **Robert S. Ledley**, director of medical computing and biophysics, and a professor of radiology, physiology and biophysics, at the Georgetown University Medical Center in Washington, DC. Ledley was cited for "pioneering innovations in biomedical computing and engineering. He invented and commercialized the whole-body CT scanner, contributed to the creation of computerized databases for patient biomedical data and biochemical sequences, and developed important instrumentation and computer algorithms essential for automated chromosome analysis."

AAS Announces Prize Recipients for 1997

The American Astronomical Society has named the winners of its awards for 1997. This year's Russell Lecturer, AAS's highest honor, is **Alastair G. W. Cameron**, a professor of astronomy at Harvard University. The award citation calls Cameron "one of the founders of modern nuclear astrophysics" and goes on to state that "his fundamental papers on such diverse topics as nucleosynthesis in stars, theory of supernovae, neutron stars, galactic chemical evolution, formation of the planets and the moon, elemental abundances and extinct radio activities have changed the field of astronomy and will have a lasting impact."

Scott D. Tremaine is the recipient of the Dannie Heineman Prize in Astrophysics, given jointly by AAS and the American Institute of Physics, for his "diverse and insightful applications of dynamics to planets, rings, comets, galaxies and the universe." Tremaine is a professor at the University of Toronto's Canadian Institute for Theoretical Astrophysics and director of the Cosmology and Gravity Program of the Canadian Institute for Advanced Research.

Alyssa A. Goodman has garnered the Newton Lacy Pierce Prize for "her leadership in understanding the structure, magnetic fields and dynamics of star-forming regions through observations at many wavelengths. Her work on the polarization of light from obscured stars and the weak magnetic alignment of grains shows that, contrary to popular belief, the polarization of background starlight does not map magnetic fields in the cold dense ISM, and points toward a better approach." Goodman is an associate professor of astronomy at Harvard University.

The winner of the Helen B. Warner Prize is **Charles C. Steidel**, an assistant professor of astronomy at Caltech. Steidel is cited for "his important contributions to observational cosmology. He has significantly increased our understanding of quasars, quasar absorption lines, and galaxy evolution and formation. He discovered high redshift, star-forming galaxies, and proved conclusively that moderate redshift QSO absorbers are normal galaxies, and showed that there has been very little evolution of the gas and galaxies back to redshift 1."

ALASTAIR CAMERON

Three Honored at 'Physics without Borders' Gathering

Three physicists were honored during a special "Physics without Borders" session at the American Physical Society's April meeting in Washington, DC. **Insu Yi** received the 1997 Outstanding Young Researcher Award from the Association of Korean Physicists in America for "his truly outstanding scholarly and pioneering research on astrophysics and cosmology." Yi is a member of the astrophysics division at the Institute for Advanced Study in Princeton, New Jersey.

The Overseas Chinese Physics Association presented its Outstanding Young Researcher Award to **Rui-Rui Du** and **Zi-Qiang Qiu**. Du, an assistant professor of physics at the University of Utah, was chosen for "his work in experimental condensed matter physics leading to the discovery of composite fermions in the fractional quantum Hall effects." Qiu, an assistant professor of physics at the University of California, Berkeley, was cited for "his many contributions in the study of magnetic artificial structures."

German Physical Society Hands Out Honors

The German Physical Society (DPG) has given out a number of honors and awards this year for outstanding research. When the society met in Munich in March, it presented prizes to **Peter Armbruster**, **Wolfgang Ketterle**, **Aton Oed** and **Robin Marshall**.

The Stern-Gerlach Medal went to Armbruster, who stepped down last fall as head of the nuclear chemistry department at the Laboratory for Heavy Ion Research (GSI) in Darmstadt, Germany. The citation praised his "pioneering contributions to the synthesis of heavy nuclei" and went on to say that "the detection of the six heaviest elements by Armbruster and his co-workers has been a decisive step in the extensions of the periodic table."

Ketterle, a professor of physics at MIT, earned the Gustav Hertz Prize for his "outstanding work on the experimental demonstration of the Bose–Einstein condensation of ultra-cold atomic gases."

Oed, who works at the Laue–Langevin Institute in Grenoble, France, received the 1997 Robert Wichard Pohl Prize for his research "leading to the development of a novel particle detector."

Marshall garnered the Max Born Medal and Prize (as reported in PHYSICS TODAY, April 1997, page 80).

At the solid-state meeting in Münster in March 1997, **Christof Geibel** was honored with the Walter Schottky Prize. The citation praised Geibel's "outstanding work on the discovery and systematic study of new heavy fermion systems." Geibel is a professor at the Technical Hochschule/Darmstadt.

The Max Planck Medal, normally given at the society's March meeting, will be given instead at a meeting this month of the DPG council. The recipient, **Gerald E. Brown**, a professor of physics at the State University of New York at Stony Brook, is being cited for his "outstanding contributions to the understanding of the structure of the nucleus, nuclear forces and the behavior of nuclear material in supernovae."

The Gentner-Kastler Prize, which is awarded alternately to German and French physicists by the German and French Physical Societies, will be presented this year to **Reinhard Scherm** of the Laue–Langevin Institute in Grenoble, at a meeting of the French Physical Society. Scherm is being cited for his "decisive contributions to the understanding of the quantum fluids helium-3 and helium-4 using thermal neutron scattering."