

Physicist, Chemist Will Receive Kyoto Prizes

In November, the Inamori Foundation in Kyoto, Japan, will award this year's Kyoto Prizes to one winner in each of three categories: basic science, advanced technology, and arts and philosophy. Of the recipients, two are engaged in physics-related work.

The Kyoto Prize for Basic Science, given this year in Earth and planetary sciences, astronomy, and astrophysics, will be bestowed on **Eugene N. Parker**. The foundation is honoring Parker for "establishing a new perspective on astrophysics by elucidating the phenomena of the solar wind and cosmic magnetohydrodynamics." He is the S. Chandrasekhar Distinguished Service Professor Emeritus in the University of Chicago's departments of physics and of astronomy and astrophysics, and in the university's Enrico Fermi Institute. He retired in 1995.

This year's Kyoto Prize for Advanced Technology recognizes work in materials sciences and engineering. The recipient, **George M. Whitesides**, Mallinckrodt Professor of Chemistry at Harvard University, is being honored for "pioneering a technique of organic molecular self-assembly and its applications in the field of nanomaterials science."

The laureates will each receive a diploma, a Kyoto Prize medal, and a cash prize of ¥50 million (approximately \$420 000). They will convene at the University of San Diego next March for the third annual Kyoto laureate symposium.

ASP Names Award Winners for 2003

In October, the San Francisco-based Astronomical Society of the Pacific will present its annual awards during a ceremony in Emeryville, California.

Vera Rubin will receive the ASP's highest honor, the Catherine Wolfe Bruce Gold Medal, which is given for a lifetime of outstanding research in astronomy and astrophysics. The society is acknowledging Rubin in part for her work on measuring the orbital velocities of gas and stars in galaxies—the first clear observational proof that most of the matter in the

universe is dark. She is also being recognized for her research on the large-scale streaming of galaxies. She has "made a major impact on the way astronomers view the universe," notes the society. Rubin is a senior fellow in the department of terrestrial magnetism of the Carnegie Institution of Washington in Washington, DC.

The Klumpke-Roberts Award, which recognizes outstanding contributions to the public's understanding and appreciation of astronomy, will go to the Hubble Heritage Project Team of the Space Science Telescope Institute in Baltimore, Maryland. The team, led by astronomer **Keith Noll**, produces astronomical images from the Hubble Space Telescope. The society is honoring the team for its "creation of a spectacular collection of images for the purpose of education, public interest, and outreach [that] benefits both astronomy and science in general."

Rodger Thompson and the Near Infrared Camera and Multi-Object Spectrometer (NICMOS) Instrument Definition Team at the University of Arizona, Tucson, will receive the Maria and Eric Muhlmann Award. According to the ASP, the NICMOS team has developed "innovative infrared technology that served not only the Hubble Space Telescope, but that also played a powerful role in the development of ground-based instruments and the Next Generation Space Telescope [since renamed the James Webb Space Telescope]." The award is given for outstanding contributions to the support and practice of observational astronomy.

The ASP will present its Thomas J. Brennan Award to **Gene Zajac**, teacher and planetarium director for the Shaker Heights City School District in Shaker Heights, Ohio. The society will honor Zajac for his teaching efforts, including the "development of a special summer science planetarium program for academically talented high-school students." The society also notes that in his teaching, he "frequently uses innovative models, such as a Stonehenge made of Rice Krispies, and Oreo cookies to demonstrate lunar phases." The award is given for outstanding contributions to the teaching of astronomy in grades 9–12.

Daniel Reichart will receive this

year's Robert J. Trumpler Award, which is given to a recent PhD degree recipient in North America whose research is considered important to astronomy.

Reichart's thesis, done under the guidance of Donald Lamb Jr at the University of Chicago, focused on the connection between supernovae and gamma-ray bursts (GRBs) and has led astronomers "to the current consensus that most GRBs result from the explosive death of massive stars," according to the society. Reichart is an assistant professor of

physics and astronomy at the University of North Carolina at Chapel Hill.



PHILIP BIRMINGHAM

Rubin

Academy Names Fellows, Foreign Honorary Members

In October, the American Academy of Arts and Sciences will induct 187 fellows and 29 foreign honorary members at a ceremony in Cambridge, Massachusetts. The following new fellows are physicists or work in physics-related fields:

Fred Anson, Elizabeth W. Gilloon Professor of Chemistry, Emeritus, at Caltech

Phaedon Avouris, manager of nanometer-scale science and technology, IBM Corp's T. J. Watson Research Center in Yorktown Heights, New York

Carolyn Bertozzi, Howard Hughes Investigator and professor of biochemistry and molecular biology and of chemistry at the University of California, Berkeley (UCB)

Alan Boss, research staff member in the department of terrestrial magnetism of the Carnegie Institution of Washington in Washington, DC

Paul Chaikin, Henry DeWolf Smyth Professor of Physics at Princeton University

Percy Deift, professor of mathematics at New York University's Courant Institute

Michel Devoret, professor of applied physics and of physics at Yale University

William Dietrich, professor in the department of Earth and planetary science at UCB

Ray Dolby, founder and chairman of Dolby Laboratories, Inc., in San Francisco

Lawrence Craig Evans, professor of mathematics at UCB

Matthew P. A. Fisher, professor of physics and a permanent member at the Kavli Institute for Theoretical Physics at the University of California, Santa Barbara

Donald Glaser, professor of physics and neurobiology at UCB

Paul Houston, professor of chemistry at Cornell University

Randall Hulet, Faye S. Sarofim Professor of Physics at Rice University

Thomas Katz, professor in the department of chemistry at Columbia University

Joseph Kirschvink, professor in the division of geological and planetary sciences at Caltech

Michael L. Klein, director of the Laboratory for Research on the Structure of Matter at the University of Pennsylvania

Donald Lamb Jr., Louis Block Professor in Astronomy and Astrophysics at the Enrico Fermi Institute and the University of Chicago

Julio Ottino, professor in the department of chemical engineering at Northwestern University

S. George Philander, professor of geosciences at Princeton

George Rieke, professor of astronomy and planetary sciences at the University of Arizona, Tucson

R. G. Hamish Robertson, professor of physics at the University of Washington, Seattle

Alexander Szalay, Alumni Centennial Professor in the department of physics and astronomy at Johns Hopkins University in Baltimore, Maryland

Lynne Talley, professor of oceanography at the University of California, San Diego's Scripps Institution of Oceanography

Kathleen Taylor, chair of the board of directors of the Centre of Automotive Materials and Manufacturing in Kingston, Ontario, Canada

Ellen Williams, director of the materials research science and engineering center, University of Maryland, College Park.

These foreign honorary members are physicists or work in physics-related fields:

J. Richard Bond, director of the Canadian Institute for Theoretical Astrophysics in Toronto

Konrad Mauersberger, director of atmospheric physics at the Max Planck Institute for Nuclear Physics in Heidelberg, Germany

William Unruh, professor of theoretical physics at the University of British Columbia in Vancouver, Canada.

In Brief

Robert Dynes will become president of the University of California's nine-campus system in October. Dyne, chancellor of the University of California, San Diego, will succeed **Richard Atkinson**, who is retiring after eight years in the position.

In July, **Richard G. Kron** became the third director of the Sloan Digital Sky Survey, a collaboration of 13 institutions worldwide and more than 200 astronomers working to map, in detail, one-fourth of the entire sky. Kron, a professor in the University of Chicago's department of astronomy and astrophysics and a scientist at Fermilab, succeeds **John Peoples**, who retired on 30 June.

The Institute for Nuclear Research of the Russian Academy of Sciences bestowed the M. A. Markov Prize on **Thomas J. Bowles**, **Vladimir Gavrin**, and **Vadim Kuzmin** at a two-day symposium at the institute in

Moscow this past May. The award recognizes the trio for their "outstanding contributions to fundamental physics and the development of research on the solar neutrino problem." Bowles, whose work has been in neutrino physics and fundamental symmetries, is a fellow at Los Alamos National Laboratory. Gavrin and Kuzmin are both with the institute: Gavrin heads the Gallium-Germanium Neutrino Telescope Laboratory at the Baksan Neutrino Observatory and Kuzmin is head of the laboratory for particle physics and cosmology in the theory division.

Last month, the International Association for the Physical Sciences of the Oceans awarded the 2003 Prince Albert I Medal in Physical Oceanography to **Klaus Wyrtki** during the International Union of Geodesy and Geophysics General Assembly in Sapporo, Japan. Wyrtki, emeritus professor of oceanography at the University of Hawaii, Manoa, was cited for his "excellence in the physical sciences of the oceans."

Obituaries

Grote Reber

Grote Reber, radio astronomy pioneer and the first person to map the radio sky, died on 20 December 2002 in Ouse, Tasmania, Australia, of cancer, two days short of his 91st birthday. During his career, Reber was not dependent on any institution. Unable to secure support from US federal agencies, he relied on his own funds and modest support from the Research Corp in New York City. His discoveries led to the postwar development of radio astronomy, which transformed our view of the universe.

Reber was born on 22 December 1911 and grew up in Wheaton, Illinois. He graduated in 1933 with a BS in electrical engineering from the Armour Institute of Technology (later the Illinois Institute of Technology). During the Depression, Karl Jansky, physicist and radio engineer at Bell Laboratories, searched for the origin of a strange form of radio static at 20.6 MHz. Jansky's discovery that it emanated from the general direction of the constellation Sagittarius was virtually ignored by the astronomy community. Reber, a radio amateur, had heard of Jansky's "star noise" and decided to investigate. By using public transportation instead of buying a car, Reber was able to afford the parts for his radio telescope. He got books



Grote Reber

on optics from the public library and, in 1936, built a 9.6-meter parabolic dish in his backyard. Reasoning that higher frequencies give better angular resolution and assuming a thermal origin of the radio noise, Reber used his skills as a radio engineer to investigate the radio sky at a frequency 160 times higher than Jansky had used.

By 1937, the antenna was ready. That same year, Fred Whipple, with graduate student Jesse Greenstein,

MARTIN GEORGE, LAUNCESTON PLANETARIUM, TASMANIA