

NAS awards, new memberships

A physicist and a radio astronomer are among those honored at a recent National Academy of Sciences awards ceremony. A number of physicists have also been elected as members and foreign associates by the Academy.

NAS awards were presented to Robert H. Dicke, the Cyrus Fogg Brackett Professor of Physics at Princeton University, and to Kenneth I. Kellermann, a radio astronomer at the National Radio Astronomy Observatory in Charlottesville, Virginia. Dicke received the Comstock Prize, consisting of a gold medal and \$4000, for his development of high-precision instruments, particularly for use in tests of the general theory of relativity and the "big-bang" theory of the origin of the universe. Kellermann was given the Benjamin Apthorp Gould Award of \$5000 for his contributions to planetary radio astronomy and long-baseline interferometry.

Some of the newly elected members are James D. Bjorken, Stanford Linear Accelerator Center; John W. Cahn, Massachusetts Institute of Technology; Albert Clogston, vice-president of research, Sandia Corporation; Isidore S. Edelman, University of California Medical Center, San Francisco; Gerhart Friedlander, Brookhaven National Laboratory; Theodore H. Geballe, Stanford University; James F. Gilbert, University of California, San Diego; John Hopfield, Princeton University; Joseph B. Keller, of the Institute of Mathematics and Mechanics at New York University and director of the division of electromagnetic research at Courant Institute; William L. Kraushaar, University of Wisconsin; James R. MacDonald, of the Southwestern Medical School, University of Texas and director of both the Central Research Laboratories and corporate research and engineering at Texas Instruments, Inc; Raymond D. Mindlin, Columbia University; Yoichiro Nambu, Enrico Fermi Institute; Gerry Neugebauer, of the California Institute of Technology and the Hale Observatories; David Pines, editor of *Reviews of Modern Physics* and professor of physics at the University of Illinois; Irving E. Segal, MIT; Richard B. Setlow, of the Oak Ridge National Laboratory and director of the Joint Univer-



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sity of Tennessee-Oak Ridge National Laboratory Graduate School of Biomedical Sciences; Julian M. Sturtevant, Yale University; Kip Thorne, California Institute of Technology, and Robert M. Walker, director of the laboratory of space physics at Washington University.

Physicists elected as foreign associates to the Academy are Dennis Gabor, Imperial College of Science and Technology, London; Ben R. Mottelson, Institute for Theoretical Atomic

Physics (NORDITA), Copenhagen; Andrei D. Sakharov, Lebedev Institute of Physics, Moscow, USSR, and I. S. Shklovsky, of the Institute of Space Research, also in Moscow.

Kawasaki and Maki receive Nishina Memorial Award

Kyozi Kawasaki, of the physics department at Temple University, and Kazumi Maki, of Tohoku University, Sendai, Japan, have been awarded the Nishina Memorial Award. The award is presented to younger Japanese physicists by the Nishina Memorial Foundation, a non-profit organization in Japan devoted to the advancement of atomic physics.

Kawasaki received the award for his work on dynamic critical phenomena. He originated the mode-mode coupling theory, which has been successful in accounting for transport properties and other non-equilibrium phenomena near critical points. Kawasaki has worked at Nagoya University in Japan, the Massachusetts Institute of Technology, Kyushu University and the University of Illinois.

Maki, who graduated from Kyoto University in 1959, was recognized for his contributions to the theory of superconductivity, including the development of a general theory for superconductors of the second kind. He also demonstrated that magnetic impurities allow superconductors without an energy gap, and he pointed out the importance of the so-called "Maki term" in the fluctuating superconductivity that occurs in thin films and fine particles.

George Washington Award goes to Dennis Gabor

Dennis Gabor, winner of the 1971 Nobel Prize in physics and the inventor of holography, is the recipient of the George Washington Award of the American Hungarian Studies Foundation. George Washington Awards are given annually to outstanding individuals of Hungarian birth.

Gabor is presently professor emeritus of applied electronic physics at the Imperial College of Science and Technology in London and a staff scientist with CBS Laboratories in Stamford, Connecticut. He has been associated

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with Imperial College since 1949, when he became a reader in electronics there. From 1934 to 1948 he worked with British Thomson-Houston, UK.

At the University of Utah Karel V. Kučař, of Princeton University, has been appointed associate professor of physics. Franz E. Rosenberger has been promoted from research assistant professor to assistant professor.

Charles E. Johnson, a former research physicist at the Lawrence Radiation

Laboratory, has been appointed assistant professor in the physics department at North Carolina State University.

Newcomers in the theoretical division at Los Alamos Scientific Laboratory include Arnold J. Sierk, of the California Institute of Technology, and Talmadge R. England, formerly with Westinghouse Electric Bettis Atomic Power Laboratory in West Mifflin, Pennsylvania. Recent appointees in the physics division are Gary J. Russell, of the University of Wisconsin, Madison, and Robert B. Howell, of the University of Texas, Austin. Barry S. Newberger, of Princeton University, has joined the theoretical design division.

obituaries

L. A. Artsimovich

Lev Andreyevich Artsimovich died in Moscow on 1 March at the age of 64. Director of the Kurchatov Institute of Atomic Energy, member of the Presidium of the Academy of Sciences of the USSR and Academician-Secretary of its division of general physics and astronomy, president of the National Committee of the International Union of Pure and Applied Physics, delegate on the Council of the European Physical Society, president of the National Committee of Soviet Physicists, member of the Commission on Disarmament Problems of the Presidium of the USSR Academy of Sciences, and member of the International Continuing Committee of the Pugwash Conferences on Science and World Affairs, Artsimovich had for almost two decades played a pivotal role in the internal development of Soviet science and its growing international involvement.

Artsimovich's interests spanned many branches of physics including x rays, slow-neutron physics, interactions of fast electrons, positron annihilation, magnetic bremsstrahlung, ion and electron optics, electro-magnetic isotope separation, and gas discharges. For the last 20 years his main scientific interest was in the physics of high-temperature plasmas.

His approach in this field was that of an inquisitive, no-nonsense experimentalist, looking for the simplest technological solutions that would allow him to isolate an important set of phenomena, heedless of the fashions that at any one time may have swept the interested scientific community. Under his guidance the Kurchatov Institute had its first major breakthrough in 1962 when, by applying the so-called

Joffe bars onto an open-ended confinement configuration (a magnetic mirror), the first experimental realization of a magnetic wall was achieved and the particle confinement time was increased by several orders of magnitude.

In the field of closed magnetic confinement systems he pursued the investigation of the simplest configuration that could be realized, a two-dimensional toroid in which the confin-



ARTSIMOVICH

ing magnetic field is generated by the current induced in the plasma itself. This current produces ohmic heating of the plasma at the same time. The series of toroidal machines developed at the Kurchatov Institute and incorporating this concept have been called "Tokamaks." As early as 1965 Artsi-