

WE HEAR THAT

Neugebauer and Others Honored by AAS

The American Astronomical Society has announced the recipients of its prizes and awards for 1996.

The Henry Norris Russell Lecture-ship Prize, AAS's highest honor, goes this year to **Gerry Neugebauer**, the Robert A. Millikan Professor of Physics at Caltech. The prize citation calls Neugebauer "one of the founders of modern infrared astronomy" and states that "his contributions to the 2.2-micron survey, to the development of various detectors, to studies ranging from dust-enshrouded young stars to active galaxies and quasars, and above all to the ultimately triumphant project known as IRAS [the Infrared Astronomical Satellite] will be remembered."

Roger A. Chevalier, the W. H. Vanderbilt Professor of Astronomy at the University of Virginia, is the recipient of the Dannie Heineman Prize for Astrophysics, given jointly by the American Institute of Physics and AAS. He is cited for "fundamental contributions to the quantitative physics of the violent and complicated supernova phenomenon."

The Newton Lacy Pierce Prize is being given to **Michael A. Strauss** for "his leadership in work on cosmic structure, based on redshift surveys from the IRAS database. Our knowledge of the local large-scale structure, flows and gravity field depends in large part on his work." Strauss is an assistant professor of astrophysical sciences at Princeton University.

Fred C. Adams has garnered the Helen B. Warner Prize for "his work on protostellar disks, the interstellar medium and quark-hadron phase transitions. His analysis of the evolution of young stars with nonstandard disks was both daring and fruitful." Adams is an associate professor of physics at the University of Michigan.

The Beatrice M. Tinsley Prize goes to **Alex Wolszczan** for "his creative and innovative analysis of binary and relativistic pulsars culminating in the discovery of a system of planets outside our solar system." Wolszczan is Distinguished Professor of Astronomy and Astrophysics at Pennsylvania State University.

Fred Hoyle is the recipient of the Annenberg Foundation Award in Education. "His radio lectures, television productions and science fiction novels

captured the imagination of audiences worldwide," the award citation states. "His strong and sustained influence on the progress of theoretical astronomy and its dissemination to professional and layperson alike and his inspiration of countless young people are unexcelled in this century." Hoyle, who is retired, was the Plumian Professor and director of the Institute of Astronomy at the University of Cambridge in England.

Engineering Academy Enlarges Its Ranks

On 15 February the National Academy of Engineering announced the names of 78 new members and eight foreign associates. The new members include

Ronald J. Adrian, a professor of theoretical and applied mechanics at the University of Illinois, Urbana-Champaign.

John F. Ahearne, executive director of Sigma Xi, the Scientific Research Society, located in Research Triangle Park, North Carolina.

Seymour G. Bankoff, the Walter P. Murphy Professor of Chemical and Mechanical Engineering at Northwestern University.

Thomas F. Budinger, head of the center for functional imaging at the Lawrence Berkeley National Laboratory.

James E. Carnes, president and chief executive officer of the David Sarnoff Research Center, in Princeton, New Jersey.

Y. Austin Chang, a Wisconsin Distinguished Professor in materials science and engineering at the University of Wisconsin—Madison.

Paul A. Fleury, dean of the school of engineering at the University of New Mexico.

Eduardo D. Glandt, the Russell Pearce and Elizabeth Crimian Heuer Professor at the University of Pennsylvania.

Martin E. Glicksman, the John Tod Horton Distinguished Professor at the Rensselaer Polytechnic Institute.

George M. Hornberger, the Ernest H. Ern Professor of Environmental Sciences at the University of Virginia.

Akira Ishimaru, the Boeing Martin Professor of Electrical Engineering at the University of Washington.

Bruce M. Lake, manager of the ocean technology department of the TRW space and technology division in Redondo Beach, California.

Francis C. Moon, the Joseph C. Ford Endowed Professor in the mechanical and aerospace engineering department at Cornell University.

Wesley L. Nyborg, a professor emeritus of physics at the University of Vermont.

Owen M. Phillips, the Decker Professor in Science and Engineering at Johns Hopkins University.

James D. Plummer, a professor of electrical engineering and senior associate dean of the engineering school at Stanford University.

Carl H. Rosner, the president and chief executive officer of the Inter-magnetics General Corp in Latham, New York.

Peter Staudhammer, vice president of science and technology at TRW Inc, in Cleveland, Ohio.

Donald R. Uhlmann, professor and head of the department of materials science and engineering at the University of Arizona.

Sheldon Weinbaum, a CUNY Distinguished Professor at the City College of the City University of New York.

The new foreign associates include

Jacob N. Israelachvili, a professor of chemical engineering at the University of California, Santa Barbara.

Frank R. Nabarro, an Honorary Research Professorial Fellow in the physics department at the University of the Witwatersrand, Johannesburg, South Africa.

Daniel Weihs, professor of aerospace engineering at the Technion—Israel Institute of Technology.

National Academy of Sciences Honors 13 Individuals

Among the 13 individuals being recognized at the annual meeting of the National Academy of Sciences this month are five who have made contributions to physics or physics-related fields.

The NAS will award its Arctowski Medal to **Raymond G. Roble**, a senior scientist at the High Altitude Observatory and the National Center for Atmospheric Research in Boulder, Colorado. Roble is being recognized for "his indispensable contributions to understanding the effects of variable solar inputs on the Earth's atmosphere and ionosphere by powerful global modeling techniques."

James G. Anderson is to receive

the Arthur L. Day Prize and Lectureship for "his pioneering work on the study of the abundance and chemical physics of radicals in the stratosphere and the effects of human influence on the ozone layer." Anderson is the Philip S. Weld Professor of Atmospheric Chemistry at Harvard University.

The NAS Award in Chemical Sciences is going to **Ahmed H. Zewail**, the Linus Pauling Professor of Chemistry and a professor of physics at Caltech, for "carrying out the pioneering work that established the new field of laser femtochemistry, using ultrafast lasers and molecular beams to probe the dynamics of the chemical bond in real time."

Christopher Stubbs, an associate professor of astronomy and physics at the

University of Washington, will garner the NAS Award for Initiatives in Research. The NAS is citing Stubbs for "his innovative development and utilization of instrumentation to attack fundamental issues in physics and astronomy, including the discovery of baryonic dark matter in the galactic halo."

Phillip J. Peebles has been selected to give the Robertson Memorial Lecture of the NAS. Peebles, the Albert Einstein Professor of Science at Princeton University, is being honored for "his dominant influence on our understanding of background radiation, galaxy formation and large-scale structure." According to the citation, "no other living scientist has done so much to transform cosmology into a genuine science."

integrated colors, hydrogen mass-to-light ratios and mean surface brightnesses. With Antoinette de Vaucouleurs, his wife, he made the first quantitative analysis (1957) of the composite radiation of a stellar system (the bar of the Large Magellanic Cloud). He also discovered secondary or "nuclear" bars in barred galaxies (1974) and recognized the importance of rings and especially pseudo-rings in spiral galaxy morphology. He was the first to propose that the Milky Way is a barred spiral with a broken inner pseudo-ring (1963–69) and, with William D. Pence, derived the first quantitative two-dimensional model of the Milky Way (1978–79). His work on the Local Supercluster and the Milky Way bar was so controversial that it was more than two decades before either idea became generally accepted.

Gérard de Vaucouleurs is probably best known for his extensive work on the cosmic distance scale and for his production of three reference catalogs of bright galaxies in 1964, 1976 and 1991. The hallmark of the reference catalogs was homogenization of data from widely different sources, so that the catalogs would be astrophysically useful databases. Much of the data on morphology, magnitudes, colors and radial velocities that went into these catalogs was obtained by de Vaucouleurs himself and his coworkers over many years. Using data in the reference catalogs, de Vaucouleurs was able to develop new distance indicators and refine many others that were already known. He had a unique philosophy on distance matters of "spreading the risks," that is, not putting all the weight on a few distance indicators but applying as many different and independent techniques as possible to check for scale and zero-point errors. He favored a large value of the Hubble constant and a short timescale for the cosmological expansion. He wrote many detailed publications highlighting his methods and in particular distinguishing them from those of other leading distance-scale workers at the time.

Gérard de Vaucouleurs's life-long commitment to astronomy was an inspiration to all who knew him. He knew more about galaxies than anyone who ever lived. He will be long remembered for his contributions and greatly missed by all who follow in his footsteps.

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OBITUARIES

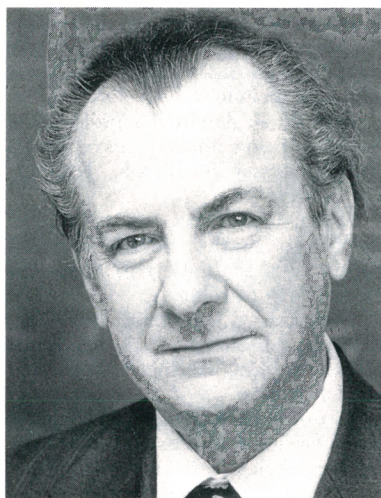
Gérard H. de Vaucouleurs

Gérard Henri de Vaucouleurs died on 7 October 1995, in his home in Austin, Texas, after a long illness. He was 77 years old. De Vaucouleurs was known for his contributions to the study and descriptions of galaxies and to the determination of the value of the Hubble constant.

De Vaucouleurs was born on 25 April 1918 in Paris, France. He received his undergraduate degree in 1939 and, following World War II, his graduate degree in 1949, both from the University of Paris, where he did his work in the Sorbonne Physics Research Laboratory and the Institute of Astrophysics. His dissertation involved research on molecular (Rayleigh) scattering of light in gases and liquids. He subsequently lived in England (1950–51), then moved to Australia, where he also earned a DSc degree from the Australian National University in 1957, for research in molecular physics, optics, photography, astronomy and astrophysics. This degree reflected his real passion—astronomy—which occupied most of his research career. De Vaucouleurs moved to the US in 1957. He worked at both Lowell and Harvard College observatories before joining the faculty of the University of Texas at Austin in 1960.

De Vaucouleurs was an observer who was meticulous with the data he collected and had an extraordinary knowledge of galaxies, recognizing hundreds of them by sight. His research was characterized by a respect—even reverence—for the data and a reluctance to produce grand theories.

Among his many contributions, he



GÉRARD H. DE VAUCOULEURS

was the first person to calculate the cosmic background light due to galaxies (1949). He established (1953–56) the reality of the Local Supercluster (or Local Supergalaxy) and the effect of its mass concentration on the motion of nearby galaxies (1958–64). He developed standard parameters to describe the luminosity distributions and angular diameters of galaxies. He discovered the $r^{-1/4}$ law of the luminosity distribution of elliptical galaxies (1948) and was the first to use the general technique of photometric decomposition of spirals into bulge and disk components. He discovered (1953–56) the spiral structure and, with Frank J. Kerr, the rotation of the Large and Small Magellanic Clouds. With Allan Sandage, he developed (1956–59) a three-dimensional scheme, a personal revision of Hubble's original galaxy classification system. He showed that the main dimension in this scheme correlated well with measured global parameters such as bulge-to-disk ratio,